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An experiment was conducted to determine the effects of four information-format variables--instructions for processing information, number of documents, masking of information, and interview information--on the teacher selection decision process. It was hypothesized that the variables affect decisions by modifying the consistency of the decisions and/or the certainty of the decision makers. First, descriptive and visual materials were prepared to create a simulated teacher selection situation. Then, 144 school principals from three counties in Washington were selected to work within the situation to make decisions regarding fictitious teacher applicants. Their decisions were measured in terms of consistency, fineness of discriminations, time, and feeling of certainty. A 2x2x3x3 factorial design was used. Results from analysis of variance indicated that the format of information did affect decisions. The optimum format consisted of instructions regarding information processing, a single summary document, no masking of information, and interviews with audiovisual stimuli. (Appended are a 21-item bibliography and materials relative to development of the simulated situation and the subject's responses.) (Author/SG)

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VARIABLES AFFECTING DECISION-MAKING IN THE SELECTION OF TEACHERS

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Seattle, Washington

August 1968

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PREFACE

This research project represents both a culmination and a beginning. As a culmination, it records activities and ideas examined over a period of years with a variety of people; as a beginning, it provides the base for research and training activities that can be broad in scope and fruitful in implications. The materials developed have much potential for training of administrators and for manipulation of variables in other experiments. The results generate specific recommendations for the practice of selection of teachers, and at the same time will allow future experiments to control variations due to information format.

A number of people have contributed to this research. Some have contributed ideas, others technical assistance, some the labor necessary to produce materials and communications, and still others the inspiration and encouragement necessary for a sustained project.

For several years I have been intrigued with the decision processes of administrators, partly because of the centrality of these processes to the major functions of administration and partly because of the potential generalizability of these processes to other cognitive tasks. Likewise, I have been interested in the teacher selection process for two major reasons: (a) it provides an opportunity for an educational administrator to make a major contribution to the improvement of a school system, and (b) it affords an example of the decision process in which the process itself can be studied systematically.

The summer of 1965 presented an opportunity to focus on these two areas of interest (i.e., decision making and teacher selection) and to design the basic study described in this report. During that summer, I attended a program co-sponsored by the University of Wisconsin and the U. S. Office of Education. The program was initiated to increase research skills and to provide assistance in the design of experiments. Several participants in the summer program provided assistance with the design of the experiment, and each of the staff members (Julian Stanley, Director; Richard Schutz, Gene Glass, and Frank Baker) reacted to the research proposal and assisted with the conceptual aspects of the design. Four graduate assistants to Dr. Stanley (Adrian VonMonfrans, Andrew Porter, Tom Houston, and Alan Abrams) also reacted to the proposal. Dr. Glenn Boerrigter, of the U. S. Office of Education, was a participant-observer in the summer program and gave helpful suggestions regarding the writing of the final proposal.

The project formally began in September of 1966, and has been conducted with the benefit of three excellent research assistants. During the materials-development phase, major responsibilities were delegated as follows: Don Bauthues—written documents and data collection devices; Mike Hickey—filmed interviews; and Dale Palmer—material for simulating the situation. Each of these research assistants continued to work on the project throughout the experiment, data analysis, and writing phases but in less specialized roles.

During the data analysis phase, Dr. Gilbert Sax provided consultation and assistance. One of his able graduate students, LaVerne Collet, assisted with statistical analysis and computer programming.

An advisory committee consisting of—

Mr. Lee Blakeley, Assistant Superintendent in Charge of Instructional Services, Northshore School District No. 417

Dr. Wendell French, Professor, College of Business Administration, University of Washington

Dr. Frederic T. Giles, Dean, College of Education, University of Washington

Dr. Gerald Hester, Superintendent, Vashon Island School District No. 402

Mr. S. Lyman Hilby, Manager School & College Placement, College of Education, University of Washington

Dr. Jack E. Kittell, Associate Professor, College of Education, University of Washington

Mr. Clayton Knittell, Principal, Central Elementary School, Snohomish School District No. 201

Dr. Gilbert Sax, Professor, College of Education, University of Washington

Mr. Kenneth H. Storaasli, Director of Personnel, Clover Park School District No. 400

provided reactions to materials and ideas during the first year of the project. Nine school districts enthusiastically allowed all of their elementary principals to contribute one day as subjects for the experiment.

Secretarial assistance was provided by Mrs. Shirley Doepkin during the first year and a half and by Mrs. Mary Weis in the final stages.

It has been possible to obtain from many people their reactions to the ideas presented in the project. One paper was read at the 1967 AERA meeting, a symposium consisting of four papers was presented at the 1968 AERA meeting, a presentation was made to graduate students at the University of Nebraska in the summer of 1967, a report was made to the 1967 meeting of the National Conference for Professors of Educational Administration, three oral reports were given to subjects of the experiment, the materials were presented to members of the Northwest School Personnel Association, and several classes in educational administration at the University of Washington were exposed to the materials used and the results of the experiment. In virtually all of these situations, the helpful reactions obtained have contributed to the conduct of the project or the interpretation of the results.

Dale L. Bolton, August, 1968

CHAPTER I. SUMMARY

This summary presents a brief description of the problem that was investigated, its scope, the objectives of the study, the methods used, the results obtained, and the implications of the project. It also presents some recommendations for practice and further research.

The Problem and Its Scope

This research project was conducted to determine whether the format of information affects decisions made in the selection of teachers. To make this determination, it was necessary to simulate an educational situation in order to manipulate and control variables. Consequently, the general purposes of the study were:

1. To develop means for simulating a teacher selection situation within which administrative-decision-making can be studied.

2. To determine the effects of four variables, all related to information-format, on teacher selection decisions in relation to the consistency of the decisions, the fineness of the discriminations made, the time needed to make the decisions, and the confidence that the administrator has in his decisions.

The four independent variables manipulated were: (a) amount of instruction provided on how to process information, (b) number of written documents presented, (c) degree of masking of information, and (d) interview information. The variables involved in the study are shown in the following table:

Table 1.1
Variables Involved in the Study

Independent Variables		Dependent Variables
Variables	Levels	
1. Instruction	a. Instruction b. No Instruction	1. Time (total time taken)
		2. Discrimination (by grouping, and by estimated consequences)
2. Documents	a. Multiple b. Single	
		3. Certainty (regarding ranking, and regarding estimated consequences)
3. Masking	a. Considerable b. Partial c. None	
		4. Consistency (regarding ranking, and regarding estimated consequences)
4. Interview	a. Audiovisual (filmed) b. Audio (tape recorded) c. None	

The general significance of the teacher selection problem is partially determined by the number of teachers selected annually in the United States, and partially by the fact that each teacher represents a potential gain or loss to the school system in terms of goal accomplishment. The specific significance of this study is determined by the particular dependent variables chosen for study, and by the fact that teacher selection decisions are based on information and are affected by the format of that information.

One of the dependent variables, viz., time needed to make a decision, is a practical consideration in decision making and is independent of the "goodness" of the decision made. The importance of the time factor seems obvious, in that a small amount of time saved on each of a large number of teacher selection decisions means a considerable saving to the school district.

The significance of the discrimination variable is based on the view that fine discriminations are needed to make subtle distinctions among teachers where the potential loss due to error is high and where the range of applicants is relatively narrow. In addition, consistency in the prediction of outcomes of selection decisions helps to maximize long-range goals by reducing the discrepancy between predictions and actual outcomes. If selection decisions are not reliable, relative losses will occur to the school system because of unaccomplished goals and purposes. (This is not to be construed as an argument against variability within a teaching faculty; if variability is a desired outcome, it should be planned for and predicted in the same manner as any other desired outcome.)

Unless decisions are both discriminative and consistent, there is little foundation upon which to accumulate evidence as to the validity of the decisions being made. There is no basis for using the outcomes of past decisions to improve future decisions; hence, decision making is likely to remain a vague, intuitive process.

Another practical factor related to the significance of the problem is the confidence or certainty of the decision maker regarding his decisions. Its significance is based on the view that decisiveness in an administrator is a good quality, that uncertainty can lead to indecision, and that uncertainty can cause vacillation and wasted motion.

The significance of the four dependent variables is established then on a direct or indirect relationship to tangible gains for a school district. The question of the validity of the decisions, or the "goodness" of the decisions in terms of whether the "correct" teacher is selected has been omitted intentionally from this study. It is assumed that local school systems define teacher effectiveness according to specified local criteria; if so, the local system will be able to specify the outcomes desired in terms of teacher behavior. It is also assumed that if the decision maker can consistently discriminate among teacher applicants in a simulated situation, he should be able to relate teacher applicants consistently to selection criteria specified by a local school district. This last assumption is worth empirical verification, however, and should be studied at a later date.

The independent variables were chosen because of their relationship to the way an administrator might use his time and how information might be processed. The use of a single summary document or partially-masked information (i.e., exceptional data rather than the total data available) might allow clerical help or data processing equipment to transform information into a more useful format and therefore permit the administrator to use his time in actual decision making rather than cumulating and collating information. However, giving the decision maker instructions regarding how to process information might facilitate decisions to the extent that it would nullify the benefits of mechanical or clerical manipulation of information. If the interview information is beneficial, then it must be retained for the purpose of assisting in decision making. If, however, administrators do not benefit from interview information, perhaps the interview should still be retained—but for purposes other than decision making (for example, to provide the applicant with information regarding the teaching situation, to help the applicant to make a decision, or to begin orienting the prospective teacher regarding the expectations of the school organization).

In this study, it was proposed that decisions are based on information, that the same information may be presented in differing formats, and that the format of the information may affect decisions. The general problem, then, was to find an information format that does not adversely affect teacher-selection decisions as far as: (a) amount of time needed to make decisions, (b) fineness of discriminations made, (c) feeling of certainty regarding the decisions, and (d) consistency in prediction of decision outcomes.

Objectives

It was hypothesized that four information-format variables affect the decisions that are made by modifying the consistency of the decisions, the fineness of the discriminations made, the time needed to make the decisions, and/or the certainty that the decision maker has in his decisions. The over-all objective was to find a maximally useful format (within the limits of the variables manipulated) for presenting information on teacher applicants. In order to accomplish this purpose, specific hypotheses regarding the main and interaction effects among the independent variables were tested for each of the four dependent variables.

Methods

There were three stages to this research project: (a) descriptive and visual materials were prepared to create a simulated teacher selection situation, (b) an experiment was conducted within the simulated situation by asking subjects to make decisions regarding fictitious teacher applicants, and (c) statistical analyses were made of the subjects' responses to determine the effects of the experimental variables.

The simulated situation within which the experiment was conducted offered the advantages of: (a) making it possible to control some of the variables that might ordinarily affect selection decisions (e.g., assignment situation, supervision situation, evaluation procedure, independence of decision, order of presentation of information regarding applicants, motivation of subjects); (b) permitting the investigator to manipulate systematically variables of interest; and (c) making it possible to maintain administrative behavior that is consistent with actual situations.

Descriptive and visual materials developed included: (a) written documents (transcripts, credentials, etc.) needed for describing fictitious teacher applicants; (b) audio and audiovisual materials for simulating teacher interview situations; and (c) instructional materials for describing the hypothetical situation for which the applicants were considered.

Fictitious applicants were created for the simulation of teacher selection. An attempt was made to create applicants whose personalities, characteristics, and experiences were distinct, yet similar enough to require a rather fine degree of discrimination to note the distinctions among them. The five factors of teacher behavior (for elementary teachers) identified by Ryans in the Teacher Characteristics Study (Ryans, 1960) were used for dimensions around which to build the applicants' personalities. These factors can be identified by their first-order dimensions as: (a) originality, (b) organization, (c) empathy, (d) sociability, and (e) buoyancy. The five factors were varied among the fictitious applicants in such a way that the personality of each girl was obviously high on one factor. Two other factors were less obvious (but present), and two others were not evident.

The subjects used for this study were selected from three counties in the State of Washington. Districts were randomly chosen from these three counties, and the first nine were asked to participate. These districts had slightly more than the number of principals needed for the study, and 144 were randomly chosen and assigned to the 36 treatments. The design was a completely randomized 2x2x3x3 fixed model treatment arrangement with measures on all four of the dependent variables.

The general experimental task performed by each subject was to examine eight fictitious applicants for a hypothetical teaching position and make decisions regarding the appropriateness of each applicant for the position. Each subject was asked to: (a) estimate how each applicant would be evaluated on a Teacher Evaluation Instrument (TEI) at the end of one year of teaching, (b) rank order the eight applicants according to their desirability for the hypothetical situation, (c) make a statement about the certainty of his judgments regarding the estimates on the TEI and the rank order by indicating how willing he would be to bet that his judgments were correct, and (d) group the eight applicants according to selected attributes or characteristics.

The above tasks were completed during the morning session of the experiment. For purposes of measuring the consistency of the decisions, a retest was administered in the afternoon in the following manner.

Five of the eight applicants presented in the first sessions were repeated in the afternoon session. These five applicants were made to appear different by modifying certain minor data, e.g., age, birthplace, height, and weight. Changes in make-up, hairpieces, and clothes altered appearances during the filmed interview. The other three applicants used during the first session were decoys and were replaced by considerably different applicants during the afternoon session. The decoys appeared late in the order of presentation in the first session and early in the second session to aid in forming the impression that the second set was an entirely new set of applicants. It was assumed that the insertion of the decoys did not affect the decisions regarding the five applicants on whom repeated measures were taken.

An analysis of variance for the 2x2x3x3 factorial experiment was completed for the main and interaction effects of the four independent variables. By using the single measure of time, and two measures for each of the other dependent variables, there were seven ANOVAs computed.

The simulation and the experiment were based on the premises that decision making in the selection of teachers involves processing of considerable information; determination of the general situation and the particular assignment for which the teacher is to be selected; analysis of the various applicants, their background of experience and education; prediction of behavior of each applicant in the position for which he is being considered; and judgment regarding which behaviors are most appropriate for the position.

Results

The analyses of variance for the experiment yielded the following results:

1. Instruction on how to process information, under these experimental conditions, reduced the amount of time it took to make decisions. Instruction also interacted with documents by reducing the time for multiple documents and by increasing the discrimination of the subjects' estimates on the Teacher Evaluation Instrument.

2. The single, summary document reduced the time it took to make decisions and increased the amount of discrimination in estimating applicant performance at the end of the first year of teaching.

3. The degree of masking of information (i.e., whether complete, only "non-average," or only "exceptional" information on the applicants was available to the subject) reduced the time needed to make decisions. However, the degree of masking reduced discrimination proportionately. The degree of masking interacted with the documents variable in the following manner: When multiple documents were used the most consistency was obtained with considerable masking; when the single document was used, it yielded the most consistency with no masking.

4. Interview information, in audiovisual form, increased the time needed to make decisions, increased the discrimination on estimates of consequences on the Teacher Evaluation Instrument, and increased both measures of certainty. There appeared to

be little difference between the effect of audio and audiovisual interview information on the time and discrimination measures. The interaction of interview information with documents (where certainty was measured by the estimation on the TEI) indicated that the audio information depressed the certainty scores with the multiple documents.

Implications

The implications of this research project for practice in the selection of teachers are as follows: If principals or personnel directors involved in selection of teachers are of a similar nature to the subjects used in this study, their decisions regarding the selection of teachers will be affected by the format of information about applicants. Further, one would expect that the format that would yield optimum results (as far as time, discrimination, consistency, and certainty are concerned) would consist of instructions regarding the processing of information, a single summary document, no masking of information, and interviews that include visual as well as audio stimuli.

The implications of this research project, resulting from the materials developed, are considerable. The materials used to simulate the decision-making process for selecting teachers provide: (a) a means of teaching the selection process to school administrators, and (b) a setting whereby further problems in decision making and teacher selection may be studied. The simulated situation will allow administrators and prospective administrators to make decisions in an environment where the consequences will not be irretrievable, where comparisons of decisions can be made and discussed, and where additional trials will promote learning. In relation to increasing the knowledge of decision-making processes, an optimum information format will allow experiments to be conducted in a simulated situation without fear that the results will be adversely affected by the manner of presenting the information to subjects.

The materials used to simulate the decision-making process for selecting teachers, then, provide a setting whereby descriptive and prescriptive theories of decision making can be tested. In addition, other variables that have been controlled in this experiment—especially those dealing with situational factors and interview information—can be manipulated in future experiments to determine their contribution to decision making.

Recommendations

The following recommendations are an outgrowth of the results of the experiment:

1. Administrators of school districts should:

    a. Develop ways to use the format which was found to be optimum in this study in providing information to decision makers who select teachers.

   b. Not hesitate to use audio interview information where it is necessary or expedient (for example, telephone interviews with persons who are considerable distances from the location of employment).

2. Programs should be devised to assist school districts to:

   a. Develop single, summary documents appropriate for local use.

   b. Provide instructional programs regarding the processing of information for selection of teachers.

3. Additional research and development activities should be initiated and conducted to determine:

   a. The conditions under which individuals can learn to select teachers for specific selection criteria representing the value system of a specified school district. The materials developed by this project should be useful in such a develmental program, but they should be field tested for their instructional utility.

   b. How differing value systems of individuals interact with the abilities of the individuals to estimate consequences of alternatives. The simulated materials developed during this project should assist the study of such interaction.

   c. How certain variables controlled in this experiment (e.g., grade level of the vacancy, sex of the applicants, age range of the applicants, racial and ethnic background of applicants) affect the decision making of administrators.

   d. The effect of the instructional variables on other populations and with varying amounts and types of instruction.

   e. Why the interaction between degree of masking and single documents resulted in reduced consistency. Also, there is a need to know why masking reduced discrimination.

   f. Whether the lack of difference between the audio-interview information and the audiovisual-interview information is consistent under other circumstances. For example, if instruction in specific techniques of observation and listening skills are provided, will differential results occur?

   g. Why the nature of the interview information affects differentially the certainty of decisions made with different types of documents.

CHAPTER II. INTRODUCTION

Background for the Study

The decision to select a teacher from among a number of applicants is the culmination of series of preliminary decisions which constitute the selection process. So crucial is the selection of a teacher to the quality of the educational program that it seems obvious that this decision should be made only with the utmost certainty regarding its utility. Yet, this is an anomaly of the selection process in education — and of selection in general — that such decisions are frequently intuitive and arbitrary. Contemporary administrative literature contains many theories of widely diverging complexity and quality which purport to improve the selection process. However, the fact remains that very little empirical data exist to either substantiate or disprove these theories; and consequently, the process remains, in many respects at least, a highly subjective one.

The purpose of this research was twofold: (a) to develop a means for simulating a teacher selection situation within which administrative decision making could be studied; and (b) to determine the effects of four information-format variables on teacher-selection decisions in relation to the consistency of decisions, the fineness of discriminations made, the time required to make decisions, and the feeling of certainty that the decision maker has in his decision.

Although there are several ways in which the study of the decision-making process of educational administrators can be approached, no others offer the advantages of the simulated situation which permits the investigator to control and manipulate variables and at the same time to maintain administrative behavior that is consistent with actual situations. Therefore, materials were developed for simulating an educational situation.

The format of data regarding teacher applicants in the simulated selection situation was modified and manipulated by means of four independent variables: (a) the number of written documents presented; (b) the amount of instruction provided decision makers regarding how to process information; (c) the degree of masking of information; and (d) the format of interview information.

A number of measurement dimensions could have been considered for determining the effect of the four independent variables, but this study was concerned with determining their effect on the following: (a) the consistency in estimating outcomes of decisions, (b) the fineness of discriminations made, (c) the amount of time needed to make decisions, and (d) the feeling of certainty regarding the decisions.

The variables involved in the study and the levels of each variable are shown in Table 2.1.

Table 2.1

Variables Involved in the Study

Independent Variables		Dependent Variables
Variables	**Levels**	
1. Instruction	a. Instruction b. No Instruction	1. Time (total time taken)
		2. Discrimination (by groupings, and by estimated consequences)
2. Documents	a. Multiple b. Single	
		3. Certainty (regarding ranking, and regarding estimated consequences)
3. Masking	a. Considerable b. Partial c. None	
		4. Consistency (regarding ranking; and estimated consequences)
4. Interview	a. Audiovisual (filmed) b. Audio (tape recorded) c. None	

The problem which was the focal concern of this study was therefore one of determining conditions whereby administrators who select teachers can be consistent in the prediction of consequences of their decisions, can differentiate among teachers who are very nearly alike, can make decisions rapidly, and can be relatively certain of the decisions they make.

Significance of the Variables

The independent variables were chosen because of their relationship to the way an administrator might use his time and how information might be processed. The use of a single summary document or partially-masked information (i.e., exceptional data rather than the total data available) might allow clerical help or data processing equipment to transform information into a more useful format and therefore permit the administrator to use his time in actual decision making rather than cumulating and collating information. However, giving the decision maker instructions regarding how to process information might facilitate decisions to the extent that it would nullify the benefits of mechanical or clerical manipulation of information. If the interview information is beneficial, then it must be retained for the purpose of assisting in decision making. If, however, administrators do not benefit from interview information, perhaps the interview should still be retained — but for purposes other than decision making (for example, to provide the applicant with information regarding the teaching situation, to help the applicant to make a decision, or to begin orienting the prospective teacher regarding the expectations of the school organization).

The more important decisions made by educational administrators are those concerning the selection of teachers. Each teacher represents a potential gain or loss to the school system in terms of goal accomplishments. The four dependent variables were selected because of their potential tangible gains for a school district. One of them is concerned with the reliability of decisions, (i.e., the consistency with which predetermined organizational outcomes are predicted). Unless outcomes of decisions are consistently predicted, long-range goals will not be maximized because of the descrepancy between prediction and the actual outcome. Therefore, if selection decisions are not reliable, relative losses will occur to the school system because of the unaccomplished goals and purposes. (This is not to be construed as an argument against variability within a teaching faculty; if variability is a desired outcome, it should be planned for and predicted in the same manner as any other desired outcome.)

The need for making fine discriminations among teacher applicants is probably not as obvious as the need for consistency. However, as the quality of teacher applicants improves, and as pressures increase for minimum error in selection, the need to make subtle distinctions among teachers who are relatively homogeneous becomes more critical.

The reason for interest in the time needed to make decisions seems obvious, in that a small amount of time saved on a large number of teacher-selection decisions means a considerable saving of valuable administrator time for a school district.

It is much more difficult to relate certainty regarding decisions to such tangible measures as costs, but the interest in this dependent variable is due to the idea that decisiveness in an administrator is a good quality, that uncertainty can lead to indecision, vacillation, and wasted motion.

The significance of the four dependent variables is established then on a direct or indirect relationship to tangible gains for a school district. The question of the validity of the decisions, or the "goodness" of the decisions in terms of whether the "correct" teacher was selected, was omitted intentionally from this study. It is assumed that local school systems define teacher effectivenesss according to specified local criteria; if so, the local system will be able to specify the outcomes desired in terms of teacher behavior. It is also assumed that if the decision maker can consistently discriminate among teacher applicants in a simulated situation, he should be able to consistently relate teacher applicants to criteria for selection specified by a local school district. This last assumption is worthy of empirical verification, however, and should be studied at a later date.

Because the experiment was conducted in a simulated situation, some of the variables that might ordinarily affect administrative decisions could be controlled (e.g., assignment situation, supervision situation, evaluation procedure, independence of decisions, physical conditions, time of year for the decision, order of presentation of subjects, order of presentation of information regarding applicants, and the motivation of the subjects—see page 27 of Chapter III for more complete explanation of these variables).

Related Research

In 1929, Elwood Cubberly indicated the importance of selecting good teachers when he stated, "...the most important place to guard the teaching service from deterioration is at the entrance gate." (1929:304). Cubberley proposed a systematic rating of teacher applicants, "...by which he (the superintendent) can defend his selections should they be called into question. Certain elements should enter into the formulation of judgments, and such should be given proper weight." (1929:313). In spite of this advice, in 1958 McIntyre stated, "The literature, of course, is not entirely silent on the subject of teacher selection, but the person who is looking for selection devices that have been validated against accepted criteria might as well abandon the search. There are none." (1958:250). McIntyre's 1958 statement is just as pertinent ten years later.

What explanation can be given for the 40-year void in development of selection practices for employing teachers? Perhaps it is due to a view that "The rejection of objective devices and the avoidance of mathematical treatment are rationalized on the grounds that human behavior is too complex to be handled by other than implicit, intuitive means."[1] (Stone and Kendall:1956:144).

This study was based on the view that progress in the decision and selection process can be made only by objective examination of human behavior.

Decision Theory

During the last 20 years, there has been a growing development and interest in decision theory and application of mathematical models to the administrative process. This concern for decision making has permeated the educational administration literature also, (Griffiths, 1958, 1959; Dill, 1965) and there appears to be little disagreement regarding its significance to administrative behavior. Griffiths (1958) was one of the first educational administrators who emphasized the importance of decision making as a theory of administration; two of his objectives for developing decision making as a theory were to provide guides to action and to provide a framework within which researchers could find new knowledge. (1958:119). The framework has not precipitated experimental research, however, and this is unfortunate. (The study of Hemphill, et al. in 1962, although partially based on a decision-making rationale, was a relational study that determined factors of performance of elementary principals and then related these factors to certain attributes of the principals studied. There was no attempt to manipulate variables to determine causes of performance.)

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[1] 1. Another reason may well be the hesitancy of local school districts to validate their own selection devices—in hopes that research on a broader scope will determine acceptable selection criteria. Gage (1963:118) and others have pointed out the futility of the simplistic models that search for universal criteria, and more complex models (e.g., Medley and Mitzel, 1963) have incorporated situational variables that act as mediators. Such models imply the necessity of local validation of selection procedures.

The formulation of the decision problem has been analyzed by many authors. (Bross, 1953; Chernoff and Moses, 1959). Central to decision theory is a consideration of the state of nature, a prediction of consequences of various alternatives, and an attachment of values to the predicted consequences. Bolton (1967), elaborating on Horst's model (1962), depicted the selection process as consisting basically of three types of measures: (a) various information categories (e.g., biographical information, test scores, ratings, etc.); (b) consequent behaviors (e.g., those behaviors exhibited by teachers in job related activities); and (c) a measure of total utility, or the value of the individual to the operation of the system.[2] The task facing the decision maker in this formulation, then, is to decide which applicants are most likely to make the most valuable contribution to the major goals of the organization. This decision is made by predicting consequent behaviors and attaching values to these behaviors. The prediction of consequent behaviors is made on the basis of information collected, and the attachment of values is based on institutional goals.

There has been much discussion of utility theory in the literature in relation to maximization of outcomes (as predicted either objectively or subjectively). Some authors (Simon:1957:198) have taken the position that man seeks not to maximize his gains, but to satisfy minimal levels of necessary criteria. A decision maker does this because of the limits on the human mind and the complexities of the world with which he must cope. This study was designed to investigate variables that have promise for organizing some of the complexities of the administrator's world in such a manner that more optimal decisions may be made.

Empirical Evidence

Empirical investigations of decision making have been few because of the problem of separating the prediction of consequences from the value attached to the consequences (Chernoff and Moses, 1960; Cronbach and Gleser, 1965). Precise measurement of utility is difficult because utility is a function of the product of prediction of consequences and the values attached to these consequences — unless one of these factors is held constant, the other cannot be determined. This investigation controlled one of the primary factors of the decision process (viz., value system) while investigating the prediction of consequences in a simulated administrative system.

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[2] See Appendix A for a more complete description of this explanation.

Interview

Sydiaha conducted an experiment which indicated that empathic processes tended to introduce errors in interviews by causing individuals to "attribute characteristics to others which, in fact, the other failed to attribute to themselves." (1963:347) He further stated:

> "These results also argue for the practice of putting the decision on an explicitly acuarial basis, rather than leaving it to the 'intuition' or 'common sense' of the interviewer, in which case the decision making cues are unspecified, unknown, or specific to the interviewer. To the extent that tendencies to empathize occur, then inter-interviewer inconsistencies are bound to result. Effective decision making in selection can be achieved only through the explicit delineation and combination of reliable and valid predictors." (1963:348)

This study was designed to determine whether administrators use information obtained in an interview after being provided with written documents. If they do not, Sydiaha's argument for actuarial decisions would be further strengthened and the interview could be used for other purposes (e.g., to orient teacher to the district).

General Strategy

The views of Oskar Morgenstern are applicable to this study.

> " At all levels of decision making, facts have to be known. If they are lacking, efforts must be made to obtain them. Often they are very expensive....If possible, facts should be qualitative; they should be precise, reliable.... There should not be more facts than the decision maker can handle. He should not be swamped by irrelevant details. And he should understand the facts he gets." (1959:224)

Morgenstern was discussing decision making in general; however, the ideas are applicable to decision making in educational administration — and are particularly relevant to the independent and dependent variables in this study of teacher selection.

Objectives of the Study

It was hypothesized that four information-format variables affect teacher-selection decisions by modifying the consistency of the decisions, the fineness of the discriminations made, the time needed to make the decision, and the certainty that the decision maker expresses regarding his decision. The overall objective was to find a maximally useful format (within the limits of the variables manipulated) for presenting information on teacher applicants. In order to accomplish this purpose, specific hypotheses regarding the main and interaction effects among the independent variables were tested for each of the four dependent variables.

Summary

This research was based on the notions that: (a) the selection of teachers is an important administrative decision, and both the selection process and decision making are worthy of empirical study; (b) the selection decision itself is based on information, and the format of that information may affect the decision; and (c) the study of selection decisions can occur more accurately and systematically in a simulated situation than in a natural setting. The general problem was one of determining an information format that does not adversely affect the teacher-selection decision. The information-format variables were: (a) number of written documents presented, (b) amount of instruction provided decision makers regarding how to process information, (c) the degree of masking of information, and (d) the format of interview information. The aspects of the decisions that were measured to determine whether they were affected by the information format were: (a) the consistency in prediction of outcomes of decisions, (b) the fineness of discriminations made, (c) the amount of time needed to make decisions, and (d) the feeling of certainty regarding the decisions.

Research over the past 40 years has not developed adequate selection procedures, possibly because many people believe human behavior is too complex for objective examination. However, much work on decision theory has been done during the past 20 years and some empirical work has been reported on decision making and problems in the use of interviews. Some authors have emphasized the necessity for the decision maker to understand and be able to process the information he obtains. The general strategy of the research reported here is compatible with this notion of information-processing capability in decision makers.

CHAPTER III. METHOD AND DESIGN OF THE EXPERIMENT

Procedures

The study included three stages: (a) descriptive and visual materials were prepared to create a simulated teacher selection situation; (b) an experiment was conducted within the simulated situation by asking subjects to make decisions regarding teacher applicants; and (c) statistical analyses (and interpretations of the analyses) were made of the subjects' responses to determine the effects of the experimental variables.

Experimental Materials Developed

Five types of descriptive and visual teacher selection materials were prepared for the study: (a) instructional materials for describing the hypothetical situation for which the applicants were considered; (b) audio and audiovisual materials for simulating teacher interviews; (c) written documents (transcripts, credentials, etc.) needed for describing fictitious teacher applicants; (d) materials for presenting one of the independent variables, viz., instructions on how to process information; and (e) written materials needed to obtain responses from subjects regarding applicants.

In general, the content of each set of materials was determined after a systematic review of pertinent literature which helped to structure a sequence of interviews with school superintendents, university placement directors, and school personnel directors. The ideas obtained from these people were synthesized and presented to a Review Panel consisting of school personnel administrators, and professors of personnel, elementary education, research methodology, and higher education. Revisions for modification and improvement were made, based on the suggestions of this panel. The materials were then pretested on a selected group of graduate students, and further modifications were made based on the information received from the pretest group.

Design and development of the simulated situation. On the assumption that selection decisions are mediated by situational variables, it was decided that relevant situational variables would be controlled in the experiment. More specifically the purposes of providing a complete description of the hypothetical situation were to: (a) remove each subject from his own situation and place him in a controlled situation, and (b) allow each subject to determine criteria he considered appropriate for selection in the given situation.

A determination of the situational context was made following a review of the literature and discussions with the advisory panel described above. Constraints of time for displaying the situation and the desirability of having the subjects retain adequate information regarding the situation necessitated a concise description of the factors considered most relevant which would satisfy the stated purposes. The situational presentation was divided into five sections. The relative importance of each section to the decisions to be made and the percentage of time to be devoted to each section were determined by a concensus of the research team (the director plus three research assistants) and the advisory panel. The outline below indicates the situational content and the approximate allocation of time per section.

SECTION ONE - LOCATION AND PHYSICAL SETTING OF THE COMMUNITY (5%)

- I. Location
- II. Geographic Features
- III. Areas of Districts in the Community
- IV. Population

SECTION TWO - NATURE OF THE COMMUNITY (20%)

- I. History
- II. Recent Changes
- III. Growth Characteristics
- IV. Effects of Growth
- V. Community Leadership
- VI. Religious Groups and Activities
- VII. Recreational Facilities
- VIII. Health and Safety Agencies

SECTION THREE - COMMUNITY SCHOOL DISTRICT (20%)

- I. History of District
- II. Local School Board Characteristics
- III. Central Administrative Structure
- IV. Physical Facilities
- V. Student Body Characteristics
- VI. Educational Program
- VII. Financial Support
- VIII. Future Needs

SECTION FOUR - THE ELEMENTARY SCHOOL (25%)

- I. Attendance Area (including pupil characteristics)
- II. Physical Plant
- III. Instructional Staff
  - A. Age range
  - B. Experience range
  - C. Number
  - D. Staff characteristics
- IV. Principal
- V. Primary Program
- VI. Intermediate Program

SECTION FIVE - THE VACANCY (30%)

- I. Fourth-Grade Staff Characteristics
- II. Pupil Grouping Characteristics
- III. Supportive Personnel
  - A. Professional
  - B. Paraprofessional
- IV. Expectations of Fourth-Grade Positions
- V. Room Description
- VI. Pupil Progress Reporting
- VII. Instructional Program

The situational description was then created for a hypothetical community, Norwest, using the outline as a guide. Following the completion of a written description of the community, the manner in which the situation could be displayed to subjects in the experiment was considered as a major problem because of the time and retention constraints. To satisfy the requirements of time and retention, and in order to gain an assurance of uniform presentation, it was decided an audio description would be tape recorded and 2x2 color slides would accompany the description.[1] The locations to be photographed for the slides were carefully selected to insure anonymity of the actual locale and to preclude identification of the subjects with the actual, rather than the hypothetical, situation. The subjects were advised at the beginning of the presentation that the district was fictitious, even though they might recognize several of the locales of the slides. Also, this idea was reinforced at the conclusion of the presentation to avoid preoccupation on the part of the subjects with determining where the pictures were actually taken. This situational presentation deviated from the usual taped commentary and slide combination in that the commentary content was considered to be the more essential element of the combination and the visual portion of secondary importance. The commentary was thus presented continuously, and the slides were shown at appropriate intervals.

Since one of the controlled requirements of the experiment was an adequate amount of retained information regarding the hypothetical situation, some method was necessary to test the knowledge of the situation as presented via the taped commentary and slides. Isolated testing, i.e., without some provision for feedback and reinforcement, seemed inappropriate for assuring an adequate degree of retention. A programed text[2] utilizing the branching technique was devised which presented essentially the same content as the taped commentary. The text was structured to provide immediate feedback to the selected response and to allow the subjects to move through the program with minimum effort if correct responses were selected. Where responses were incorrect, additional information was provided via the branching technique. On completion of the two tasks, viz., listening to the taped commentary while viewing the accompanying slides and then completing the programed text, it was assumed the subjects were sufficiently oriented to the situation to be able to develop criteria as a basis for subsequent selection decisions.

Before the situation was presented, the subjects were instructed to make certain assumptions concerning the situation and subsequent tasks of the experiment. The assumptions were:

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[1] Appendix B provides additional information regarding the content of the description and the nature of the slides.

[2] Information regarding content of the text is provided in Appendix C.

1. Each subject was to assume the role of an administrator in the hypothetical school district, charged with the responsibility of selecting a replacement for a departing fourth-grade teacher in a particular school.

2. The time of the year was fixed at April 15, and the subjects were to select a person to begin teaching next September.

3. Those subjects receiving interview information were to assume that a screening interview was held prior to April 15; however, no information from the screening interview was available to the subjects.

4. All the applicants were graduates of the same university.

5. All the applicants had met at least the minimum state certification requirements and had at least provisional certificates.

These assumptions, as well as the situational presentations, were held as constant factors for all subjects in the experiment.

Development of simulated interviews. One of the independent variables, format of interview information, consisted of three levels: (a) no interview information, (b) only the audio portion of interview information, and (c) the full audio and visual interview information. Factors of practicality and control precluded the use of a "live" interview situation in which the subjects actually interviewed applicants for the vacancy. Consequently, it was decided to utilize a sound and color film of part of an interview with each applicant for the audiovisual treatment, while only the soundtrack of this film was used for the audio treatment. The film was produced in such a manner that it focused on the applicant throughout the entire interview segment, and the individual who was conducting the interview remained anonymous—only a portion of the back of his head appearing in the films.

The development of the filmed interview was subject to a number of constraints. First, because of time and fiscal limitations, the length of each interview sequence was limited to nine minutes. This made it necessary to display only the probing portion of the interview, since it was felt, and this was supported by the literature, that this was the most vital portion. Second, because of the limitations of the simulated situation, all interviews were with applicants being considered for a specific position, which was adequately delineated by the description of the hypothetical situation. All applicants were assumed to be at least minimally qualified for employment and all had presumably passed an initial screening interview, although none of this initial interview information was available to the subjects. Third, as a control measure, all applicants were female, all were between 22 and 28 years old, and all were of acceptable appearance, that is, none were at either extreme in terms of physical appearance. These controls, it was felt, provided a group of applicants that was relatively homogeneous with respect to these classification variables; such relative homogeneity was necessary to be able to test for discrimination among treatments.

The problem confronted in preparing these materials was how to display adequately the personality characteristics of the applicants in a nine-minute segment of the interview so as to permit them to be assessed and rated by the subject. A Teacher Evaluation Instrument (see pages 24-25) was developed based on behavioral and personality traits related to the five factors (for the elementary teacher sample) delineated in Ryans' study (1960), and reflecting the criteria of teaching success established for the hypothetical district. These five factors were then manipulated among the sixteen fictitious applicants in such a way that a personality was "created" in which each applicant was obviously high on one factor (e.g., originality), two other factors were less obvious, but present in the interview behaviors (e.g., buoyancy and sociability), and two others were not evident (e.g., organization and empathy).[3]

Once it was determined what the personality of the applicants would "look" like, the task remained: (a) to prepare scripts which would offer the opportunity for display of these characteristics and permit their assessment, and (b) to find actresses who could adequately portray the fictitious applicants in the manner desired. The scripts were developed after a thorough review of the literature pertinent to personality and behavioral assessment and to selection interviews, and a survey of personnel directors in twenty districts in the Seattle metropolitan area. Questions were developed and categorized according to the factors which their responses would be likely to display. Questions were selected according to the following criteria: (a) they were questions which would reasonably be asked in an interview; (b) they were analytical and probing in nature, suggesting an extended answer; (c) they would allow the applicant to express the designated characteristics around which the fictitious character was developed.

It was decided to write a script for both the questions and the answers for two reasons: (a) a spontaneous answer, while desireable from several standpoints, might violate the constraint of time on the filming; and (b) a spontaneous answer, while perhaps better reflecting the actual personality of the actress playing the role, might not clearly present the behavior factor intended to be displayed, thereby eliminating a source of control.

The actresses were selected from among graduating seniors in elementary education at the University of Washington. This group was chosen for several reasons: (a) they were similar to the hypothetical candidates in age, sex, appearance, etc.; (b) their own training and background in education would provide a naturalness and familiarity with the situation which might not be as evident in non-education students; and (c) practically all in this group had undergone one or more actual interviews and would therefore be more likely to be at ease in the filming situation. A total of 53 girls was interviewed for the task and eleven were finally accepted for the roles in the films.

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[3] See Appendix D for a complete description of the characteristics of the teacher applicants.

Ryans' five central factors (for the elementary teacher sample) described above were behaviorally-defined to be relevant to the hypothetical vacancy, and candidates for the actress jobs were assessed on these factors and rated until the necessary number had been selected. Each girl was assessed broadly at first on all five personality and behavior factors, but this scanning quickly focused on the traits which were predominant in the girl's personality, as evidenced in the interview. The actresses were then selected on the basis of the extent to which they "fit" one of the fictitious applicants whose traits they would display in the filmed interview.

Once the actresses had been selected, they were given a brief written description of the sort of character they were to portray. In all cases, this character was one intended to coincide with those personality factors predominant in the actress. Each was also given the written script and asked to read it carefully, making any changes in diction or expression to make the responses seem as normal as possible without changing the essential content of the interview. Then the script was thoroughly learned and rehearsed several times until a natural aura pervaded the interview segment.

The rationale for the design of the interview sequence was to display specific behavioral and personality factors which could be assessed by the subjects of the experiment. Two of the dependent variables to be measured were: (a) the subject's certainty about his assessment of the applicants as he thought each would be rated at the end of her first year of teaching on a teacher evaluation instrument; and (b) his ability to discriminate between applicants on a number of personality dimensions (e.g., Ryans' five factors). The structure of the interview sequence was developed so as to stringently control the characteristics displayed by the applicants in the interview, while retaining the realism and spontaneity of the situation as far as possible.

Subsequent use of the filmed interviews in the research project and related presentations indicated an overwhelmingly favorable response to the realism of the interview. As was expected, however, a generally negative response was elicited concerning the narrow focus of the interview segment, most reactors indicating that it failed to display enough of the "total personality" of the applicants, despite the fact that all of the major dimensions they were required to assess in the experiment were evidenced in the interview and related documents.

Development of written documents. The written documents created for each of the applicants were developed in conjunction with the interview materials and were designed to support, and elaborate on, the characteristics displayed in the interview. Two of the independent variables, number of documents and masking of information, involved manipulation of information on the written documents.

The procedure followed for development of these documents included: first, multiple documents were created; second, information regarding the applicants was devised and inserted in the multiple document forms; third, a single summary document was created; fourth, a strategy for transfer of information from the multiple documents to the single document was devised, and the information was transferred; fifth, the information on the single documents was masked to conform to the three-level masking variable; and sixth, the comparable data on the multiple documents were masked.

The documents variable consisted of two levels: (a) multiple documents, which are the type most commonly used by districts at present, and (b) a single document. In developing the multiple documents, data gathering devices used by school districts were analyzed by format and the type of information they gathered. On the basis of this analysis, documents typical of those used by school districts were created for the experiment. At the same time, it was intended that the documents represent the most reasonable of current practices. To accomplish this the literature was searched for empirical evidence, and opinions were solicited from the Advisory Committee.

The multiple documents consisted of: (a) a letter of application; (b) an application form; (c) college placement credentials which included general information, a report on student teaching, a summary of coursework including grades, and letters of recommendation from professors, supervising teachers, and principals; and (d) a confidential teacher reference form from a principal or superintendent.

The second level of the documents variables was a single or summary document.[4] It is relatively easy to construct a single document on which one can summarize the information obtained on district-initiated forms—application, reference form, interview form—because the categories of information are standardized by the use of these same forms for all applicants. The difficulty lies in making a form on which one can appropriately summarize the information contained on the various forms initiated outside the district, such as college placement credentials and letters of recommendation. In the different forms and letters a district receives there will be a great variation in subject content, characteristics described, and descriptive adjectives and phrases used. However, a logical analysis of the different kinds of information given and the various descriptive terms used indicates that many different means are being employed to describe the same qualities and characteristics, a conclusion supported by the research of Tupes and Christal (1961) and Peres and Garcia (1962).[5]

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[4] Examples of multiple and single documents are provided in Appendix E.

[5] Eight factor analysis studies of ratings on personality characteristics have been summarized by Tupes and Christal (1961). The same five factors of typical behavior emerged from all studies. In a study of 625 letters of recommendation by Peres and Garcia (1962), it was found that applicants were not described in terms of observable behavior (i.e., critical incidents) but rather by adjectives or generalized trait names. The 715 adjectives found in the letters were reduced to 170 by personnel people. A factor analysis of these 170 adjectives identified five factors much the same as those identified by Tupes and Christal.

Therefore it seems reasonable that a single document can be constructed on which one can appropriately summarize nearly all relevant bits of information received on a candidate.

A major guideline in creating the summary document was to minimize the information categories in nominal form and maximize those in scalar or rating form. Of the four areas comprising the form developed—General Information, Background Data, Summary of College Work, and Evaluative Data—only in the "General Information" section were the data recorded in nominal form. In the other three sections, information was recorded on a five-column rating grid.

In the section on Evaluative Data an applicant could be rated on 25 characteristics pertaining to personal qualities and teaching behaviors. Information contained in the credentials, student teaching report, and letters of recommendation was assessed and recorded on this grid. A code consisting of both letters and colors was used so that the persons looking at the grid would know the source of the original evaluations, although for the purposes of this experiment those subjects having the single document treatment would not have access to these original evaluations.

For a school district to use the summary form, it would, or course, have to define each characteristic or behavior item on the document. It would also have to establish a policy as to what constitutes a particular rating for a certain characteristic or behavior. Although initially it would be considerable work, the required careful examination of hiring policies would most likely be very beneficial.

The introduction of the masking variable in this study was motivated by the belief that it is time-consuming to study each bit of information; and since a person has difficulty assimilating large amounts of data (Miller, 1956), it may be better to direct attention to only those bits of information that are most discriminating. There were three levels of masking used: (a) none; (b) partial, i.e., all the "average" data were masked out; and (c) considerable, i.e., all "non-exceptional" data were masked out.

Both the single summary document and the multiple documents were masked, so it was necessary to provide for consistent masking of the information on the two levels of the documents variable. The summary document was masked first. For partial masking the central column on the rating grids was masked out, leaving the two columns at each extreme. For considerable masking, only a single column at each extreme was left unmasked. Masking on the multiple documents was derived from the masking on the summary document by utilizing records of correspondent information made at the time of the initial transfer of information from multiple documents to the single document.

The masking was done to determine the effect on decisions of allowing the decision maker to attend to only the more exceptional information. In practice, school districts might develop different ways of providing the decision maker with only exceptional data.

Development of the instructional variable. The instructional variable was designed to give some of the subjects information-processing techniques and consisted of two levels, instructions or no instructions. The instructions given were concise and consisted of techniques which were assumed to be integral to effective and efficient information processing. The instructions were presented by tape recording to insure consistency of presentation, and were supplemented by visual aids and a written summary of the five main points. The subjects' comprehension of the instructions was ascertained by a brief multiple-choice test. The entire process of instruction required less than ten minutes.

The instructions provided, and a brief statement of the rationale underlying the instruction, are as follows:

1. Withhold your decision until all pertinent information has been considered. This delay of the decision is essential, since some items of exceptional information uncovered at an early stage in the process may otherwise prejudice or limit the decision maker's perception of the applicant's total qualifications for the position.

2. Scan all the information available to you quickly in order to form a general impression of the applicant. This process assists the decision maker in developing a general impression of the applicant which allows him to focus on details of the information more efficiently and effectively by associating them with the impression of the total person.

3. Decide upon criteria for selection and attempt to group the information items in clusters around the particular criterion to which they are relevant. Since the selection criteria provide the basis for the selection decision, the decision maker must be aware of what they are and make them an explicit part of the selection process. Once recognized, these criteria become a sort of organizational scheme around which the various items of information can be clustered according to their relevance to a particular criterion.

4. Pay particular attention to items of exceptional information and attempt to summarize the exceptional points (both positive and negative) for each applicant. Since the decision maker obviously cannot consider every information item available on each applicant and do so effectively, the decision will probably be based primarily on items containing exceptional information. By attending primarily to such exceptional information, the decision maker will most likely encounter the majority of information items which will influence his decision.

5. Analyze the information items in terms of the relative value of the criteria established and the decision to be made. Some information is more valuable than other information in determining the qualifications of applicants for a teaching position. This value hierarchy must be established by the decision maker in terms of the qualifications he considers most important for the particular teaching position and situation. The relative value for information items will then determine the weighting of those items in making the decision and the amount of time to be spent assessing them.

Development of response device. The response device used by subjects in the experiment included the following: (a) a cover sheet and a sheet with appropriate date, group (a code for treatment received), the session (morning or afternoon), subject number for the experiment, the time begun and ended, and the time elapsed; (b) a set of instructions for estimating how each teacher would be evaluated on a Teacher Evaluation Instrument (TEI); (c) the eight TEI's; (d) a sheet for acquiring the subject's feeling of certainty regarding his accuracy in completing the TEI's; (e) a sheet for rank ordering the eight applicants and for obtaining a measure of certainty regarding the ranking; and (f) a sheet for grouping the applicants according to five teacher characteristics.[6]

The entire response device was developed and presented to the Advisory Panel for their consideration and review. After acquiring their reactions, modifications were made and the device was tried out on a group of selected graduate students. Then, final modifications were made prior to use in the experiment.

One part of the response device, the TEI, required more work to develop than the other parts, and deserves some explanation. The TEI consisted basically of two parts: Part One (A-F on the TEI, Appendix F) consisted of observable teacher behaviors in classroom situations; and Part Two (G-I on the TEI) consisted of supplementary teacher behaviors that may be observed outside of classroom situations. Both parts consisted of bi-polar adjectives separated by a seven-point scale, as illustrated:

systematic ____:____:____:____:____:____:____ disorganized

The adjectives for Part One were selected according to a two-dimensional conception of classroom behavior: (a) the teaching act, (b) teacher behavior. Figure 3.1 illustrates the two dimensions, with the vertical scale depicting the teaching act while the horizontal scale indicates the types of teacher behaviors or characteristics (Ryans' five factors for the elmentary teacher sample; Ryans, 1960). Bi-polar scales were then developed to describe teacher behaviors for each cell of the grid. For example, for cell #1, "stimulating—dull" was considered appropriate for describing buoyant teacher behavior during the part of the teaching act that is designed to create a motivational environment. For Cell #2, "patient—impatient" was considered appropriate to describe empathetic behavior during guidance and counseling acts.

Care was taken to assure that the scales described observable behavior. Once a large list of scales was devised, the scales were examined for redundancy and were reduced to a manageable number. The scales were then combined across the horizontal dimension and were organized under the Teaching Act headings. No heading had more than seven scales, nor less than three.

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[6] Examples of each of these parts are provided in Appendix F.

Figure 3.1
Two Dimensions of Observable Teacher Behavior in Classroom Situations

The Teaching Act	Teacher Behavior				
	Organization	Buoyancy	Creativity	Empathy	Sociability
Planning & Organizing Classwork					
Classroom Management					
Creating a Motivational Environment		1			
Instruction					
Evaluation					
Guidance & Counseling				2	

A similar procedure was followed for Part Two, except that a classification system compatible with out-of-classroom activities was developed. The categories for the vertical dimension were: out-of-the-classroom duties and professional activities, relations with other people (staff and parents), and school-community relations. These categories formed the headings for Part Two of the TEI.

The Experiment

This description of the experiment includes a description of the subjects, the experimental task they performed, the measures obtained, the experimental controls used, and the general design of the experiment.

The subjects. The subjects used for this study were selected from three counties in the State of Washington, *viz*., Pierce, Snohomish, and King. Districts were randomly chosen from these three counties and the first nine were asked to participate. Only districts with six or more elementary schools were selected, and principals with less than one year of administrative experience were not asked to participate. The districts selected had slightly more than the number of principals needed for the study, and 144 were randomly assigned to the 36 treatments.

The experimental task. After being oriented to the situation, the general task performed by each subject was to examine eight fictitious applicants for a hypothetical teaching position and make decisions regarding the appropriateness of each applicant for the position. Each subject was asked to: (a) estimate how each applicant would be evaluated on a Teacher Evalution Instrument at the end of a year of teaching; (b) rank order the eight applicants according to their desirability for the hypothetical situation; (c) indicate his feeling of certainty regarding the extimations on the TEI and the ranking by indicating how willing he would be to bet that his judgments were correct; and (d) group the eight applicants according to selected attributes or characteristics.

The measure obtained. On completion of these tasks, a measure was available for two of the independent variables, viz., time and certainty. A measure of reliability of the subjects' decisions would allow an estimate of consistency; this suggested a repetition of the task at a somewhat later date, assuming that recall would not affect the judgments. Aside from the hazard involved in such an assumption, there would also be a problem of mortality of subjects from one testing period to the next and the necessity to again instruct each subject regarding the hypothetical situation. Therefore, instead of retesting at a later date, an immediate retest was administered in the following manner.

Five of the eight applicants presented in the first session were repeated in a second session during the afternoon. These five applicants were made to appear different by modifying certain minor data, e.g., age, birthplace, height, weight, etc. Changes in makeup, hairpieces, and clothes altered appearances during the filmed interview. The other three applicants used during the first session were decoys and were replaced by three considerably different applicants during the afternoon session. The decoys appeared late in order of presentation in the first session and early in the second session to aid in forming the impression that the second set was an entirely new set of applicants. It was assumed that the insertion of the decoys did not affect the decisions regarding the five applicants on whom repeated measures were taken.

The success of this deception was indicated by the fact that, of the 48 subjects who received the audiovisual interview treatment, none indicated that he had recognized any of the applicants as being doubles.

After the subjects had performed the same tasks with the second set of applicants, it was possible to obtain two measures of consistency: (a) a correlation between the first and second ranking of the five real applicants, and (b) a correlation between the first and second estimates of how each applicant would be evaluated on the Teacher Evaluation Instrument.

Two measures of discrimination were computed after completion of the experiment: (a) the average number of groupings on the attributes selected (e.g., the larger the number of groups, the greater the discrimination); and (b) the mean variance of the 16 applicant scores on each item of the Teacher Evaluation Instrument (e.g., the greater the variance, the more discriminating the individual; the smaller the variance, the less discriminating).

By using the single measure of time, and two measures for each of the other dependent variables, seven measures were obtained for analysis.

Controls. In the hypothetical situation, it was necessary to control certain factors in order to determine the effects of the treatment variables. The following were held constant for all treatment combinations.

1. Assignment situation. All teachers were considered as applicants for a fourth-grade teaching position in a hypothetical district, to be assigned to a given building. All applicants were females and were relatively homogeneous in terms of appearance, age, and experience.

2. Supervision situation. The assumption was made that all candidates would receive the same quality of supervision once they were placed in the situation.

3. Evaluation procedure. It was assumed that the evaluation procedure used at the end of the year was the same for all applicants. The outcomes desired for the simulated district were identified and the relative value of each was indicated.

4. Independence of decisions. Decisions of all subjects were obtained independently of other subjects by administering the tasks in monitored situations to groups of eight subjects at a time, each one working in a private room.

5. Physical conditions. The physical conditions under which all subjects worked were similar in all respects.

6. Time. The simulated situation assumed that all subjects were making the decisions on April 15th for the school year beginning the following September.

7. Order of presentation of applicants. Since fatigue might have possibly affected judgments regarding applicants, a counterbalancing was used to compensate for any order effects.

8. Order of presentation of information regarding applicants. This was the same for all treatments and levels.

9. Motivation of subjects. Each subject was informed that he was to assume the role of a member of a selection committee and that he was to have no specific responsibility for the teacher who was selected for the hypothetical situation. All subjects were uniformly encouraged to make the best judgment possible with the information provided.

Design. The design of the experiment was a completely randomized 2x2x3x3 fixed model treatment arrangement, with measures on four dependent variables. The 144 subjects were assigned randomly to each of the 36 treatment combinations of the design, a total of four subjects per cell.

The usual assumptions of higher order fixed model factorial experiments were made, including the assumption of additivity of the factorial effects and the experimental error, and the assumption that the error term is normally distributed and independent of the treatment variables (Winer, 1962, Chapter 5). For each ANOVA, all hypotheses for main effects and interactions were tested and the results are reported in Chapter IV of this report.

Analysis of the Data

On completion of the experiment, the following information was available on each subject:

1. Time required for each subject to complete the decision (T).
2. A ranking of the five applicants in set one (R_1) and set two (R_2).
3. A measure of certainty regarding the ranking (C_1).
4. An estimate of consequences of selecting each of the five applicants in set one (E_1) and in set two (E_2).
5. A measure of certainty regarding the estimate of consequences (C_2).
6. A grouping of the subjects on selected characteristics (G).

Time. The data for time needed to complete the decisions were examined, and it was determined that it was not necessary to transform the data prior to analysis. An analysis of variance (ANOVA) for the 2x2x3x3 factorial experiment was completed for the main and interaction effects of the four independent variables.

Certainty. Separate ANOVAs were completed for each certainty measure, testing for both main and interaction effects.

Consistency. Prior to using an ANOVA for determining the consistency of the decisions of the subjects, some derived scores were computed. First, a correlation (r_r) was computed between R_1 and R_2 for each subject. These correlations were transformed to Fisher's r to Z transformation and the Z scores used for the ANOVA. This analysis allowed statements to be made regarding the effects of the independent variables on the consistency of decisions regarding the rankings of teacher applicants.

Another analysis of consistency was made by computing a correlation (r_e) between E_1 and E_2 for each subject, transforming the r_e's to Z scores and using the resultant Z scores for the ANOVA. This permitted statements regarding the effects of the treatment variables on the consistency of the decisions regarding estimations of consequences.

Discrimination. To determine the ability of a subject to discriminate finely among applicants, the groupings of the teacher applicants on the selected attributes (G) were used. If one subject grouped the eight applicants into eight groups on a given attribute, e.g., scholarship, and another subject used three groups, then the first subject was considered to discriminate more finely. The average number of groupings on the attributes selected was used as a discrimination score for an ANOVA of the effects of the independent variables on fineness of discrimination.

A second measure of discrimination was obtained by computing the variance of the 16 applicant scores on each item of the Teacher Evaluation Instrument. The mean of these variances (i.e., $\sum s_i^2/Q$, where s_i^2 $[i=1,\ldots,Q]$ is the variance of the 16 applicant scores on the *i*th items and Q represents the number of items on the TEI) was used as a discrimination score; the greater the variance, the more discriminating the individual; the smaller the variance, the less discriminating the individual. The discrimination scores were then used in the ANOVA, and tests of significance were made for the main and interaction effects.

Other Analyses. Several post analyses were made of the data. Where means were compared, orthogonal comparisons were made by a Newman-Keuls test. Also, an orthogonal comparison was made of an interaction effect. On one interaction effect where it was desirable to make comparisons that were not ortohogonal, Scheffé's test was used.

Summary

This study included the preparation of materials for simulating a teacher selection situation, the conduction of an experiment, and the analysis and interpretation of data collected during the experiment.

Materials for describing the hypothetical situation were displayed via audio instructions accompanied by 2x2 color slides; this was supplemented by a programmed text which also allowed a test of knowledge regarding the situation. Scripts were prepared for interviews to portray varying characteristics, and films were made in order to simulate teacher interview situations. Written documents, representative of those commonly used in school districts, were developed for providing background information of the fictitious applicants, and this information was also presented on a single summary document that was developed. In addition, materials were developed for instructing subjects on how to process information. A response device was constructed which included a measure of time taken to perform the experimental task, a teacher evaluation instrument for the hypothetical district, a form for ranking the applicants and for estimating the degree of certainty regarding these rankings, and a measure of the number of groups on specified characteristics. This response device allowed the computation of one measure of time, two measures of certainty, two measures of consistency, and two measures of discrimination.

The experimental design was a completely randomized 2x2x3x3 fixed model treatment arrangement. The 144 elementary principals used as subjects for the experiment were selected from three counties in the State of Washington and randomly assigned to the 36 treatments. The experimental task included the examination of fictitious applicants for a hypothetical teaching position, the estimation of how each applicant would be evaluated at the end of a year of teaching, the rank ordering of the applicants, the expression of degree of certainty regarding decisions made, and the grouping of applicants according to selected characteristics.

The analyses of variance for each of the seven measures available from the experiment provided information regarding the main and interaction effects.

CHAPTER IV. RESULTS AND FINDINGS

The general purpose of the research project was to determine the effects of four information-format variables on teacher selection decisions. The purpose of this chapter is to report the results of an experiment in a simulated situation to determine these effects. The results of the study are presented in terms of the effects on the four dependent variables (three of these variables had two measures; consequently, there were seven ANOVAs computed) and then are discussed with relation to the four independent variables. [1]

Results of the Study

The total results of the analyses are presented in Table 4.1. Since each analysis included the same independent variables, the sources of variation are the same for all seven analyses. Table 4.1 indicates results that were significant at the .05 and the .01 levels.

Table 4.1
Results of Seven 2x2x3x3 Analyses of Variance for
Four Dependent Variables*

Source of Variation	Dependent Variables						
	Time	Discrimination		Certainty		Consistency	
		Grouping	Est. Cons.	Ranking	Est. Cons.	Ranking	Est. Cons.
1: Instruction	.01						
2: Documents	.05		.05				
3: Masking	.01		.05				
4: Interview	.01		.01	.01	.05		
1 x 2	.05		.05				
1 x 3							
1 x 4							
2 x 3							.05
2 x 4					.05		
3 x 4							
1 x 2 x 3							
1 x 2 x 4							
1 x 3 x 4							
2 x 3 x 4							
1 x 2 x 3 x 4				.05			

* Table entries are maximum probabilities

Time

The analysis of variance, using time as a dependent variable, is shown in Table 4.2.

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[1] The variables are explained in Chapter II and the procedures for their measurement and analysis are explained in Chapter III.

Table 4.2
An Analysis of Variance Showing the Effect on Time

Source of Variation	d.f.	Sums of Squares	Mean Squares	F
1. Instruction	1	11826.6	11826.6	8.975 **
2. Documents	1	5244.2	5244.2	3.98 *
3. Masking	2	13828.5	6914.3	5.25 **
4. Interview Information	2	116784.3	58392.1	44.3 **
1 x 2	1	6601.6	6601.6	5.01 *
1 x 3	2	531.1	265.6	--
1 x 4	2	2273.4	1136.7	--
2 x 3	2	2681.7	1340.8	1.02
2 x 4	2	2387.1	1193.5	--
3 x 4	4	5852.3	1463.1	1.11
1 x 2 x 3	2	1724.6	862.3	--
1 x 2 x 4	2	487.5	243.8	--
1 x 3 x 4	4	775.0	193.8	--
2 x 3 x 4	4	1334.4	333.6	--
1 x 2 x 3 x 4	4	3239.5	809.9	--
Within Cells (Error)	108	142317.3	1317.8	
Total	143	317888.9		

* $p \leq .05$ ** $p \leq .01$

The following results are indicated from the analysis:

1. No instruction required 18 minutes more time than instruction.

2. Multiple documents required 12 minutes more time than single documents.

3. No masking required 271.5 minutes, which was significantly more than 257.8 minutes for partial masking, which was significantly more than 247.6 minutes for considerable masking.[2]

4. Audiovisual and audio information were not significantly different (with mean times of 274.1 and 283.8 respectively), but both took a significantly longer time than no interview information (219.1 minutes).

5. The effect of instruction interacted with the effect of documents in the following manner: When no instructions were given, using the multiple documents required 25.6 minutes longer; however, when instructions were given, there was no significant difference in the time required. This interaction is plotted in Figure 4.1.

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[2] A Newman-Keuls test was used for all post analyses of means.

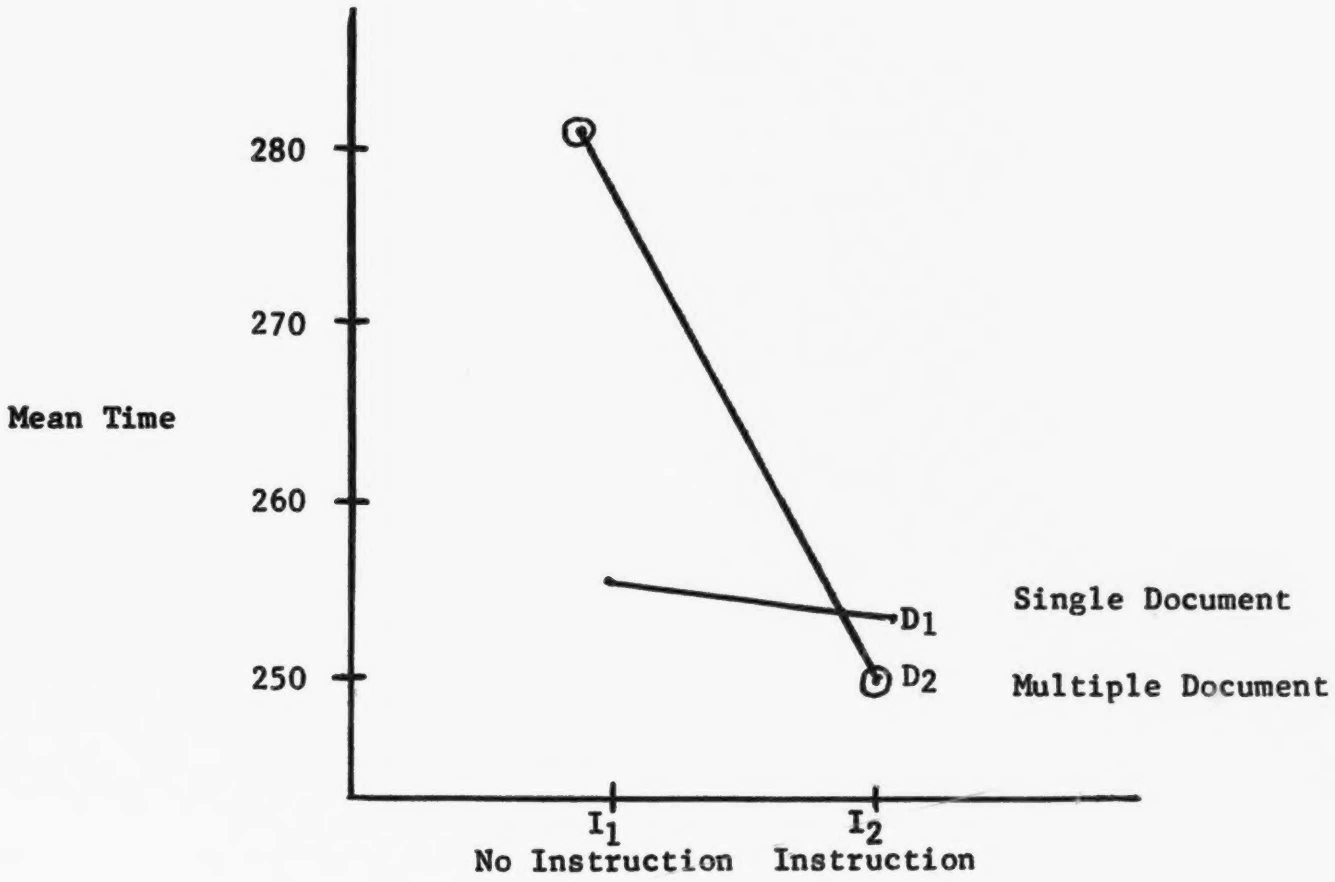

Figure 4.1 The interaction effect of Instruction (I) and Documents (D) on Time.

Discrimination

Results of the analysis of variance, using the grouping of applicants on various characteristics as a measure of discrimination are reported in Table 4.3 and indicate no differences for any of the dependent variables. (Two two-way interactions at the .10 level were not considered significant.)

Using the estimate of ratings on the Teacher Evalution Instrument as a measure of discrimination for the ANOVA (see Table 4.4) yielded the following results:

1. Instruction had no effect on this measure of discrimination.
2. The single document produced more discrimination.
3. No masking yielded more discriminating results than partial masking, which yielded more discriminating results than considerable masking. (Mean scores were 1.22, 1.07, and 0.96, respectively.)
4. The results of audiovisual and audio interview information were not significantly different, but the results of both were more discriminating than no interview information. (Mean scores were 1.15, 1.19, and 0.92, respectively.)

Table 4.3
An Analysis of Variance Showing Effect on Discrimination
as Measured by Number of Groupings

Source of Variation	d.f.	Sums of Squares	Mean Squares	F
1. Instruction	1	21.0	21.0	--
2. Documents	1	0.2	0.2	--
3. Masking	2	1.8	0.9	--
4. Interview Information	2	40.0	20.0	--
1 x 2	1	85.6	85.6	3.616
1 x 3	2	37.5	18.8	--
1 x 4	2	143.0	71.5	3.022
2 x 3	2	37.7	18.8	--
2 x 4	2	12.1	6.0	--
3 x 4	4	95.4	23.9	--
1 x 2 x 3	2	52.5	26.3	--
1 x 2 x 4	2	53.0	26.5	--
1 x 3 x 4	4	55.0	13.8	--
2 x 3 x 4	4	41.9	10.5	--
1 x 2 x 3 x 4	4	108.7	27.2	--
Within Cells (Error)	108	2555.3	23.7	
Total	143	3340.7		

Table 4.4
An Analysis of Variance Showing Effect on Discrimination, as Measured
by Variance of Estimates of Consequences on
the Teacher Evaluation Instrument

Source of Variation	d.f.	Sums of Squares	Mean Squares	F
1. Instruction	1	0.09	0.09	--
2. Documents	1	0.77	0.77	4.06 *
3. Masking	2	1.55	0.78	4.09 *
4. Interview Information	2	1.94	0.97	5.10 **
1 x 2	1	1.02	1.02	5.37 *
1 x 3	2	0.25	0.13	--
1 x 4	2	0.38	0.19	--
2 x 3	2	0.05	0.03	--
2 x 4	2	0.71	0.36	--
3 x 4	4	0.98	0.24	--
1 x 2 x 3	2	0.13	0.07	--
1 x 2 x 4	2	0.17	0.09	--
1 x 3 x 4	4	0.69	0.17	--
2 x 3 x 4	4	1.05	0.26	--
1 x 2 x 3 x 4	4	0.44	0.11	--
Within Cells (Error)	108	20.53	0.19	
Total	143	30.77		

* $p \leq .05$ ** $p \leq .01$

5. The effect of instruction interacted with the effect of documents in the following manner. When no instructions were given, the multiple documents were less discriminating than the single documents. The instruction appeared to depress the single documents' discrimination score somewhat and increase the multiple documents' score considerably. Orthogonal comparisons of the means indicated that the means that were different were: (a) single and multiple documents when no instructions were given (means: 1.219 and 0.905, respectively); and (b) the multiple documents when no instructions and instructions were given (means: 0.905 and 1.124, respectively). This interaction is plotted in Figure 4.2.

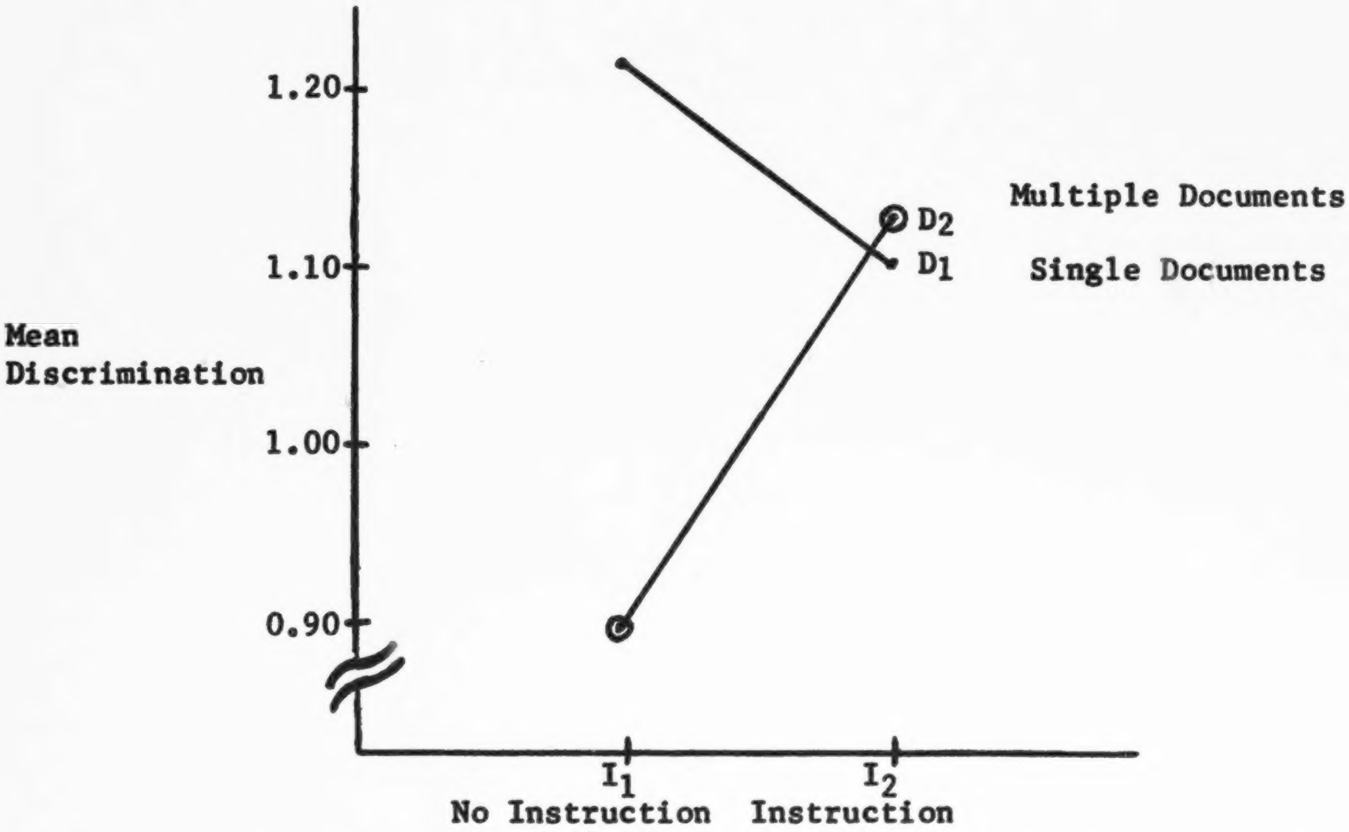

Figure 4.2 The interaction effect of Instruction (I) and Documents (D) on Discrimination, as measured by variance of estimates on the Teacher Evaluation Instrument.

Certainty

The analysis of variance regarding the certainty of the estimates of consequences on the Teacher Evaluation Instrument (see Table 4.5) yielded the following results:

1. The effects of instruction, documents, and masking were not significant on this measure of certainty. (The difference at the .10 level for instruction was not considered significant.)

Table 4.5
An Analysis of Variance Showing Effect on Certainty of Estimates of Consequences on the Teacher Evaluation Instrument

Source of Variation	d.f.	Sums of Squares	Mean Squares	F
1. Instruction	1	10.56	10.56	3.66
2. Documents	1	2.51	2.51	--
3. Masking	2	2.26	1.13	--
4. Interview Information	2	24.01	12.01	4.16 *
1 x 2	1	0.34	0.34	--
1 x 3	2	8.38	4.19	--
1 x 4	2	13.54	6.77	--
2 x 3	2	2.51	1.26	--
2 x 4	2	23.35	11.67	4.04 *
3 x 4	4	19.44	4.86	--
1 x 2 x 3	2	3.18	1.59	--
1 x 2 x 4	2	6.76	3.38	--
1 x 3 x 4	4	16.08	4.02	--
2 x 3 x 4	4	8.19	2.05	--
1 x 2 x 3 x 4	4	5.28	1.32	--
Within Cells (Error)	108	311.75	2.89	
Total	143	458.16		

* $p \leq .05$

2. There was significantly more certainty expressed with audiovisual than with audio interview information (mean scores: 9.63, 8.65). No interview information yielded a mean score of 8.95, which was not significantly different from the other scores.

3. The effect of the number of documents interacted with the effect of the interview information treatment in the following manner. The audio depressed the certainty scores for the multiple document treatment below that of the single document, while the multiple document treatment exhibited more certainty with the audiovisual and no interview information. This interaction is plotted in Figure 4.3. Two comparisons were made of the interaction effects: (a) between levels A1 and A2, and (b) between levels A2 and A3. Since these were not orthogonal comparisons, Scheffé's test of multiple comparisons was used and the level of significance was set at .10, suggested by Scheffé because of the conservatism of the test, rather than the more normal level of .05. The *F*'s for the two comparisons were 6.06 and 6.07, respectively, well above the required *F*' of 4.72 for significance.

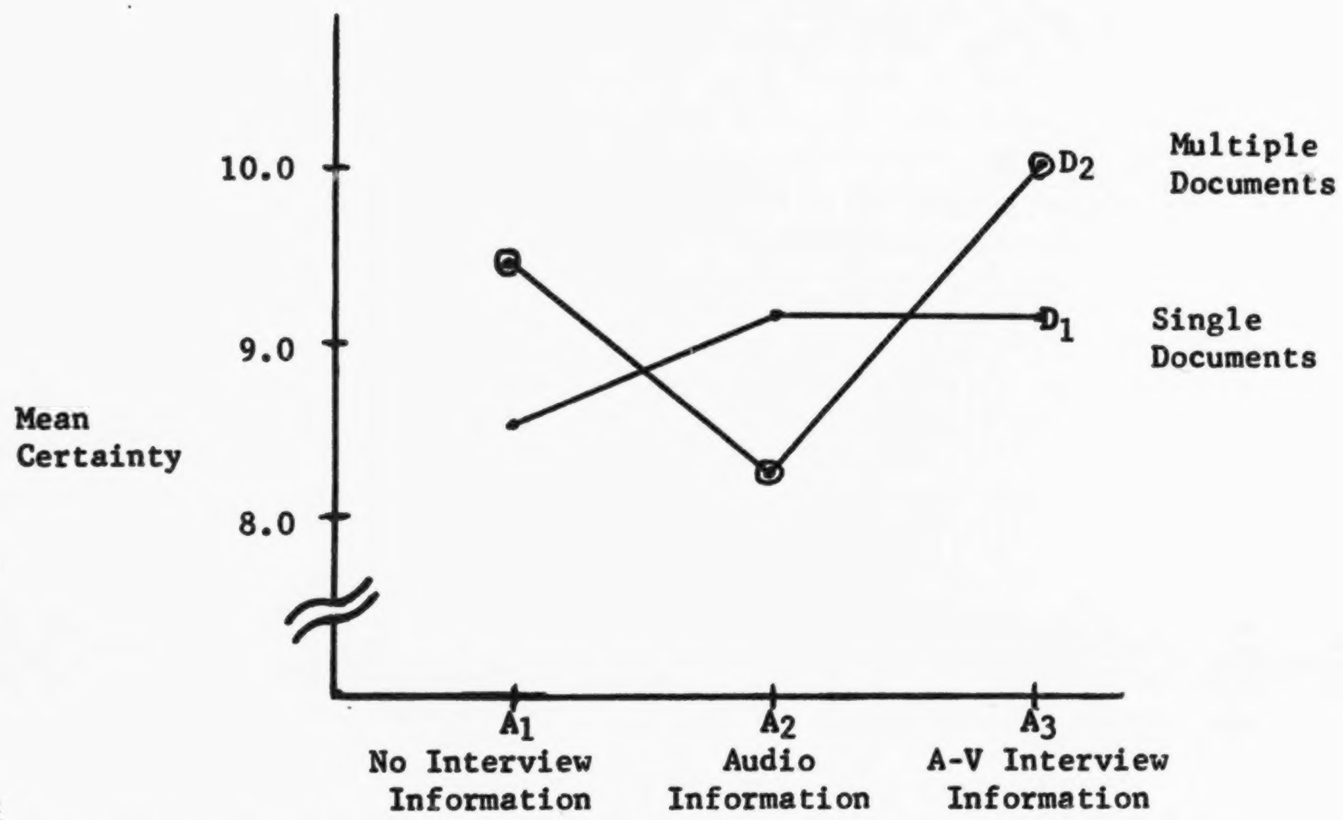

Figure 4.3 The interaction effect of Interview Information (A) and Documents (D) on Certainty of estimates on the Teacher Evaluation Instrument.

The analysis of variance regarding the certainty of the ranking of applicants for the position (see Table 4.6) yielded the following results:

1. The effect of instruction, documents, and masking was not significant on this measure of certainty.
2. Audiovisual interview information yielded significantly more certainty than either audio information or no interview information. (Mean scores: audiovisual, 9.92; audio, 8.50; no information, 9.04.)
3. The effects of the four variables interacted with regard to this measure of certainty.

Consistency

The analysis of variance, using as a measure of consistency the rank order correlations between event one and event two (morning and afternoon sessions) for the ranking of candidates for the position, yielded no differences for any of the independent variables. (One three-way interaction at the .10 level was not considered significant.) The data are reported in Table 4.7. The variance within groups was so great on the consistency of rank order of the candidates from morning to afternoon session that differences did not appear. The small number of candidates (n = 5) used in the rank order correlation reduced the possibility of obtaining significant differences; likewise, this may partially account for the large variances in correlation coefficients within cells. However, similar within-cell variances were also noted for correlation coefficients between the two estimates of consequences on the 49-item Teacher Evaluation Instrument. The reason for such high cell variance appears to be related to the heterogeneous backgrounds of the subjects involved, but further investigation of this phenomenon is warranted.

Table 4.6
An Analysis of Variance Showing Effect on Certainty
of Ranking of Applicants

Source of Variation	d.f.	Sums of Squares	Mean Squares	F
1. Instruction	1	1.36	1.36	--
2. Documents	1	0.00	0.00	--
3. Masking	2	2.26	1.13	--
4. Interview Information	2	49.06	24.53	6.02 **
1 x 2	1	2.78	2.78	--
1 x 3	2	5.01	2.51	--
1 x 4	2	14.39	7.19	--
2 x 3	2	2.63	1.31	--
2 x 4	2	7.17	3.5	--
3 x 4	4	19.69	4.92	--
1 x 2 x 3	2	3.93	1.97	--
1 x 2 x 4	2	5.72	2.86	--
1 x 3 x 4	4	31.86	7.97	--
2 x 3 x 4	4	18.33	4.58	--
1 x 2 x 3 x 4	4	52.44	13.11	3.218 *
Within Cells (Error)	108	440.00	4.07	
Total	143	656.64		

* $p \leq .05$ ** $p \leq .01$

Table 4.7
An Analysis of Variance Showing Effect on Consistency
of Ranking of Applicants

1. Instruction	1	0.00	0.00	--
2. Documents	1	0.02	0.02	--
3. Masking	2	0.88	0.44	--
4. Interview Information	2	0.98	0.49	--
1 x 2	1	0.07	0.07	--
1 x 3	2	0.22	0.11	--
1 x 4	2	0.48	0.24	--
2 x 3	2	0.13	0.07	--
2 x 4	2	0.85	0.42	--
3 x 4	4	0.08	0.02	--
1 x 2 x 3	2	1.92	0.96	--
1 x 2 x 4	2	0.36	0.18	--
1 x 3 x 4	4	2.23	0.56	--
2 x 3 x 4	4	0.58	0.14	--
1 x 2 x 3 x 4	4	0.53	0.13	--
Within Cells (Error)	108	38.78	0.36	--
Total	143	48.10		

The analysis of variance, using as a measure of consistency the correlation of the estimates of consequences on the Teacher Evaluation Instrument of event one with event two (see Table 4.8) yielded the following results:

1. There were no main effects of the independent variables for this measure of consistency.

2. The degree of masking interacted with the document variable, and the interaction is plotted in Figure 4.4. Observation of the figure indicates that the intereaction was caused by the increase in consistency from M2 to M3 with the multiple documents, and the concomitant decrease in consistency with the single document. An additional analysis indicated that this interpretation is correct. An analysis was made of two components of the interaction: (a) the combination of levels M1 and M2 compared with the M3 level (labeled m1 x D); and (b) a comparison of levels M1 and M2 (labeled m2 x D). m1 and m2 are a set of orthogonal comparisons as shown by the following weights:

	M1	M2	M3
m1	1	1	-2
m2	1	-1	0

Table 4.9 shows the components of the interaction.

Table 4.8
An Analysis of Variance Showing Effect on Consistency
of Estimating Consequences on the Teacher Evaluation Instrument

Source of Variation	d.f.	Sums of Squares	Mean Square	F
1. Instruction	1	0.05	0.05	--
2. Documents	1	0.03	0.03	--
3. Masking	2	0.11	0.05	--
4. Interview Information	2	0.11	0.05	--
1 x 2	1	0.01	0.01	--
1 x 3	2	0.07	0.04	--
1 x 4	2	0.18	0.09	--
2 x 3	2	0.50	0.25	4.18 *
2 x 4	2	0.02	0.01	--
3 x 4	4	0.45	0.11	--
1 x 2 x 3	2	0.18	0.09	--
1 x 2 x 4	2	0.11	0.05	--
1 x 3 x 4	4	0.23	0.06	--
2 x 3 x 4	4	0.36	0.09	--
1 x 2 x 3 x 4	4	0.07	0.02	--
Within Cells (Error)	108	6.41	0.06	--
Total	143	8.87		

* $p \leq .05$

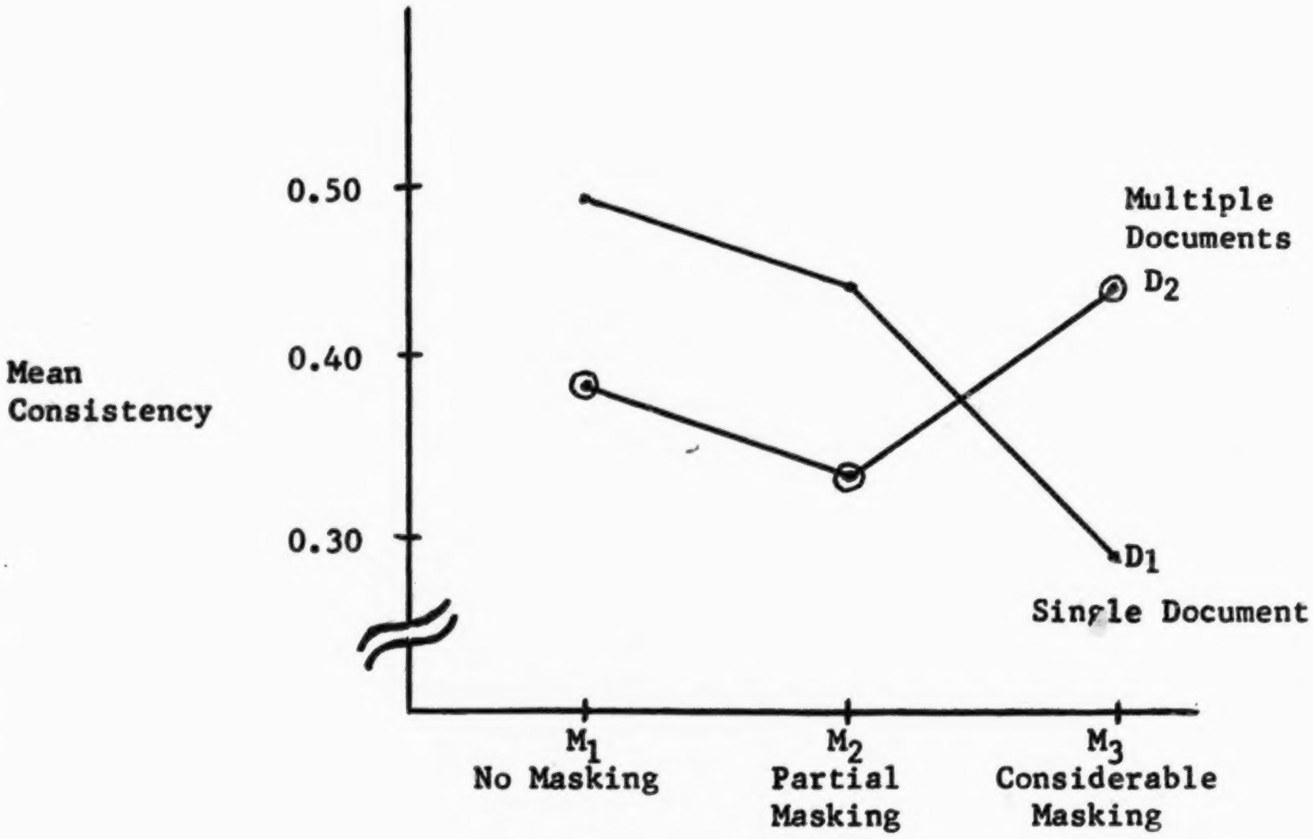

Figure 4.4 The interaction effect of Masking (M) and Documents (D) on Consistency of estimates on the Teacher Evaluation Instrument.

Table 4.9
An Analysis of the Components
of the Documents by Masking Interaction

Source of Variation	d.f.	Sums of Squares	Mean Squares	F
2 x 3 (Documents by Masking)	2	0.50	0.25	4.18 *
m1 x D	1	0.496	0.496	8.52 **
m2 x D	1	0.004	0.004	--
(Error)	108	38.78	0.36	

$* \ p \leq .05$ $** \ p \leq .01$

Two cautions are interjected at this point regarding the results of the analysis of the consistency measure. First, it will be noted in Table 4.8 that 15 F tests were computed, and only one of them — a two-way interaction — was significant at the .05 level. It is quite likely that this is a chance event, in that none of the main effects were significant and only one of the 15 tests was significant. If all of the degrees of freedom of the sources of variation had been the same, it would have been possible to get an estimate of the likelihood that this was a chance event by comparing the mean square of the significant interaction with the largest of the other mean squares and treating the ratio as an F score. Since the degrees of freedom were not equal, this comparison was not possible. In spite of the warning, the reader is reminded that the results are interpretable within the realm of the idea that large amounts of information are unmanageable and small amounts lead to inconsistency. In addition, the eventual recommendations would not be different even if this interaction is due to chance.

Discussion of the Results

The presentation of the results in terms of the effects on the four dependent variables provides a certain perspective regarding the outcomes of the experiment. However, another perspective can be obtained by analyzing what effect each of the independent variables had. This latter provides more insight into the implications of the study and the recommendations to be made as a result of the study.

Instruction

Instruction on how to process information, under these experimental conditions, reduced the amount of time it took to make decisions. Instruction also interacted with documents by reducing the time for multiple documents and by increasing the discrimination of the subjects' estimates on the Teacher Evaluation Instrument.

Therefore, regardless of the format of the information, there would be a time benefit from giving information-processing instructions to principals who are engaged in the selection of teachers. However, increased discrimination would result from instructions only where multiple documents were used (which happens to be the more normal procedure at present, although the advantages of the single document are indicated in the following section).

Documents

The single document reduced the time it took to make decisions and increased the amount of discrimination in making estimates on the Teacher Evaluation Instrument. However, documents interacted with interview information by depressing the certainty of estimate on the Teacher Evaluation Instrument for the audio interview information obtained by the multiple document treatment.

Documents also interacted with the masking information as far as consistency was concerned in estimation on the Teacher Evaluation Instrument. (As indicated earlier, this interaction may be due to chance, since no main effects or other interactions were significant for the 15 _F_ tests computed for this ANOVA.) When multiple documents were used the most consistency was obtained with considerable masking; when the single document was used, it yielded the most consistency with no masking. These results appear to be compatible with a general notion that too much information (or information in an unmanageable form) is confusing and precipitates inconsistent responses, while too little information precipitates random behavior.

The main effects of the document variable indicate the advantages of the single document for savings of time and for increasing the discrimination of decision makers. The interaction effect with the interview information is difficult to explain; but since it is primarily concerned with the relationship of the multiple documents with audio information (a case which is not commonly used and is not recommended as part of the optimum-information format), this should not cause undue concern. The interaction between documents and masking, although quite possibly due to chance, points to a potential advantage of the single document (or of masking, if multiple documents were used) as far as consistency was concerned.

Masking

The degree of masking of information had a main effect of reducing the time needed to make decisions and by decreasing the discriminations made in the estimates of consequences on the Teacher Evaluation Instrument. Also, as indicated in the prior section, masking reduced the consistency of single documents.

An increased amount of masking provided for an advantage of saving of time; however, the increased masking reduced the discrimination. Of the two of these effects, the discrimination is probably more important as far as risk and potential loss is concerned. As indicated above, the documents-masking interaction points to the advantages of either the single document with no masking or of the multiple documents with masking of non-exceptional data.

Interview Information

The analysis of the effect of the interview information indicated that audiovisual and audio information increased the time needed to make decisions, but increased the discrimination on the estimation of consequences on the Teacher Evaluation Instrument. In neither of these cases was there a significant difference between the results of the audiovisual and the audio treatments.

The results also indicate that there was more certainty expressed with the audiovisual information than with the audio on both measures of certainty, but only with the measure of certainty regarding the ranking of applicants was the mean certainty of the audiovisual greater than with no interview information. The interaction of interview information with documents (where certainty was measured by the estimation on the TEI) indicated that the audio information depressed the certainty scores with the multiple documents.

The main effects of the interview variable indicate there are advantages to having audiovisual information as far as discrimination and feelings of certainty regarding decision making are concerned; however, there is a concomitant loss in time. The advantages of the main effects appear to outweigh the disadvantage of loss in time. The comparisons of the three types of information indicate that the only advantages of the audiovisual interview information over the audio interview information (on this set of dependent variables) is in the relatively higher feelings of certainty. However, the interview-documents interaction indicates a relative disadvantage to audio interview information presented in combination with multiple documents.

Summary

The results of the study were presented with relation to the effects of the dependent variables and indicate:

1. Time to process information and make decisions regarding teacher applicants was: (a) reduced by instruction, (b) reduced by the single document, (c) reduced by masking, and (d) increased by audio or audiovisual interview information. In addition, interaction between instruction and documents indicated the instruction reduced the time of subjects who had multiple documents more than those with single documents.

2. Discrimination was: (a) increased by the single document, (b) decreased by masking, (c) increased by audio and audiovisual interview information, and (d) not affected by the instruction variables. In addition, the instruction-document interaction indicated the discrimination was increased when the multiple documents treatment was combined with instructions regarding how to process information.

3. Feelings of certainty regarding decisions were: (a) increased by the use of audiovisual interview information, and (b) not affected by the instruction, documents, and masking variables. In addition, the document-interview interaction (for the certainty regarding the estimates of consequences on the Teacher Evaluation Instrument) indicated the audio information depressed the certainty scores for the multiple documents treatment.

4. Regarding consistency of decision making, there were no main effects of instruction, documents, masking, or interview information. Using the correlation of the estimates of consequences on the Teacher Evaluation Instrument of event one with event two as a measure of consistency, there was one interaction between documents and masking — indicating more consistency with: (a) single documents and no masking, and (b) multiple documents and considerable masking.

The discussion of these results, according to the effect that each independent variable had, indicated:

1. Instructions on how to process information reduced the amount of time it took to make decisions. In addition, instructions had more effect on multiple documents than on single documents.

2. The single documents reduced the time needed to make decisions and increased the discrimination in making estimates on the Teacher Evalution Instrument. In addition, the single document with no masking or partial masking was more consistent than with considerable masking. The multiple documents combined with the audio interview information reduced the feelings of certainty regarding estimates on the Teacher Evaluation Instrument.

3. The masking of information: (a) reduced the time needed to make decisions, and (b) decreased the discriminations of estimates of consequences on the Teacher Evaluation Instrument. In addition, as noted above, masking interacted with documents.

4. The audiovisual interview information presented to subjects: (a) increased the time needed to make decisions, (b) increased the discrimination on estimates of consequences on the Teacher Evaluation Instrument, and (c) increased both measures of certainty. There appeared to be little difference between the effect of audio and audiovisual interview information on the time and discrimination measures.

The results of this study were not concerned with the validity of the decisions. It was assumed that the importance of situational variables necessitates local validation of selection decisions and that this local validation should be done with an optimum information format as far as time, certainty, discrimination, and consistency are concerned. Additional study in the simulated situation should allow us to determine whether subjects will be able to make valid decisions for predetermined and specified criteria with the information format recommended.

CHAPTER V. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Prior chapters have presented the background and purposes of the study, the procedures used, and the results and findings. This chapter will present the major conclusions, implications for practice and future research, and some recommendations based on these conclusions and implications.

Conclusions

The major conclusions of the study were:

1. The use of a simulated situation facilitated the study of the teacher selection decision process by allowing variables to be manipulated — and the results of this manipulation to be analyzed. The simulated situation included: (a) the description of the hypothetical community; (b) the presentation of fictitious applicants via written documents, such as credentials and application forms, and filmed interviews; and (c) a set of decisions to be made regarding the applicants.

2. The format of information provided to the subjects of the experiment did have an effect on the decisions they made. Each of the dependent variables was affected by at least one of the manipulated variables.

3. The optimum format for minimizing time and maximizing discrimination, certainty, and consistency under the experimental conditions was the combination of: (a) instructions regarding the processing of information, (b) a single summary document, (c) no masking of information on the single document, and (d) interviews that include visual as well as audio stimuli.

4. The differences between using audiovisual and audio interview information were in the subjects' feelings of certainty regarding judgments made; otherwise, comparable results were obtained from these two forms of interview information.

Implications

The implications of this research project for practice in the selection of teachers are as follows: If principals or personnel directors involved in selection of teachers are of a similar nature to the subjects used in this study, their decisions regarding the selection of teachers will be affected by the format of information about applicants. Further, one would expect that the format which would yield optimum results (as far as time, discrimination, consistency, and certainty are concerned) would consist of the format found optimum in this study, viz., instructions regarding the processing of information, a single summary document, no masking of information, and interviews that include visual as well as audio stimuli.

The implications of this research project, resulting from the materials developed, are considerable in relation to increasing the knowledge of decision-making processes. An optimum information format will allow experiments to be conducted in a simulated situation without fear that the results will be adversely affected by the manner of presenting information to subjects. This experiment, then, was necessary in order to utilize the simulated situation for testing hypotheses regarding certain elements of decision theory. For example, if one wants to describe the decision-making behavior of a particular individual (or a set of individuals), or if one desires to prescribe a manner in which a decision maker might behave more effectively, it is necessary to determine both: (a) the manner in which he predicts consequences, or at least what consequences he predicts, and (b) the value system he uses in the final choice. But how can the prediction of consequences be separated from the values attached to them? How does one know, by observing the choice of a particular alternative, whether the choice was made on the basis of a high prediction of consequences and a low value, or the reverse, or both a high prediction of consequence and a high value?

Interest in value systems has led students of decision making to devise descriptive and prescriptive decision-making models. One intent of these models is to assist people in making the consequences they predict and the values attached to them explicit, yet little work has been done to accomplish this intent.

One approach to the description of the decision-making process might be to place subjects in a precisely described choice situation in which the consequences can be accurately determined and known by the subject. For example, a betting situation in which the odds were known—as in coin-flipping, rolling dice, or choosing combinations from a deck of cards—might be used. Subjects could be taught the probabilities of certain consequences occurring and their values could be inferred from the alternatives chosen, i.e., the types of bets they made. However, such an approach would leave much to be desired, because prediction of consequences would have been controlled, in a sense; therefore, one could only infer that differences in behavior were due to differences in value systems rather than the way consequences were predicted. Inability to determine concomitantly the subject's manner of predicting consequences and his value system is a limitation in this situation; such a limitation might elicit behavior considerably different from behavior in a less restricted decision situation.

An approach from which broader generalizations might be made is one in which the situation is described, but the decision maker must make choices on the basis of his own prediction of consequences and attachment of values to these consequences. An example is the simulated teacher selection situation described in this report. In this decision situation, subjects are not taught probabilities of consequences of choosing certain teacher applicants but must make estimates of what will occur if each teacher is hired. In addition, they must make choices among the teachers. The estimates of what will occur when a teacher is hired become the subject's explicit expression of probable consequences, and the value system of the subject is implied by this expression and his choices among teachers.

The materials used to simulate the decision-making process for selecting teachers, then, provide a setting whereby descriptive and prescriptive theories of decision making may be tested. In addition, other variables that have been controlled in this experiment—especially those dealing with situational factors and interview information—can be manipulated in future experiments to determine their contribution to decision making. The results of this project, in addition to providing some recommendations for the practices of selecting teachers, make possible the control of a very important variable (viz., the format of information) in future studies of the decision-making process.

Recommendations

The recommendations to be made as a result of the experiment are:

1. Administrators of school district should:

    a. Develop ways to use the format which was found to be optimum in this study in providing information to decision makers to select teachers. The potential saving in time and increase in discrimination, certainty, and consistency are too great for school administrators not to adapt the results of this study to their particular needs.

    b. Not hesitate to use audio-interview information where it is necessary or expedient (for example, telephone interviews with persons who are considerable distances from the location of employment).

2. Programs should be devised on a state or national basis to assist school districts to:

    a. Develop single, summary documents appropriate for local use. Dissemination of the results of this study will be sufficient for some school districts to modify their practices. However, it would be beneficial to many districts if a developmental activity were engaged in whereby the dimensions of the information format and its relation to local peculiarities were fully explored. For example, various types of single summary documents might be developed and field tested in order that their advantages and disadvantages could be known to local school districts.

    b. Provide instructional programs regarding the processing of information for selection of teachers. The materials developed for this project provide considerable potential for instructing people regarding the selection of teachers—under circumstances whereby feedback of results can be provided. However, since the materials were developed for purposes of conducting an experiment, they should be adapted for instructional purposes. In addition, the results of the instructions on how to process information were encouraging enough to warrant further development and utilization.

3. Additional research and development activities should be initiated and conducted to determine:

a. The conditions under which individuals can learn to select teachers for specific selection criteria representing the value system of a specified school district. Although this project provides an optimum format for presenting information to decision makers for selecting teachers, the format does not provide the requirements for valid decisions. Valid decisions can be made only for specified criteria, and it has been assumed that individuals can learn to make valid decisions if the information format does not interfere with the learning process. However, this assumption should be tested and conditions should be identified whereby individuals can learn to select teachers for specified criteria. The materials developed by this project should be useful in such a developmental program, but they should be field tested for their instructional utility.

b. How differing value systems of individuals interact with the abilities of the individuals to estimate consequences of alternatives. This research project did not acquire measures of the value systems of subjects (either as implied by their decisions or as explicity stated by the subjects), since the concern was to develop an information format that would not adversely affect the decision process. Because an important facet of decision making is the interaction of value systems with the estimation of consequences, this should be studied in the simulated situation—using the optimum format for presenting the information.

c. How certain variables controlled in this experiment (e.g., grade level of the vacancy, sex of the applicants, age range of the applicants, racial and ethnic background of applicants) affect the decision making of administrators. It is often said that the selection of teachers depends on the situation for which the teacher is being selected, but no empirical evidence is available to indicate that administrators actually make adjustments in their selection processes for situational variables. If they do not, they tend to select for some stereotype of a global "good teacher," whereas the research evidence is plentiful that no uniformly good teacher exists.

d. The effect of the instructional variable on other populations and with varying amounts and types of instruction. For example, will superintendents and directors of personnel profit from instruction regarding how to process information? Likewise, will more extended instruction sessions that include discussion of situational variables, and their relation to the criteria to be used, be beneficial to decision makers? Will the same effect occur regardless of the experiential background of the subject? Will it be necessary to give instructions each time the task is performed? Will the instructional effects transfer to other information-processing tasks? All of these questions warrant further study.

e. Why the interaction between degree of masking and single documents resulted in reduced consistency. Also, there is a need to know why masking reduced discrimination. Are these results due to the fact that not enough information is available to make discriminating and consistent decisions, or is it due to the lack of familiarity of principals with decision processes that emphasize attending to exceptional data? Studies need to be completed that will determine whether additional familiarity with exceptional-information-decision-making procedures yields different results. If so, time might be saved by using some procedure of partial masking.

f. Whether the lack of difference between the audio-interview information and the audiovisual-interview information is consistent under other ciucumstances. For example, if instruction in specific techniques of observation and listening skills are provided, will differential results occur? The use of televised or live interviews could facilitate the teaching of observation skills, and the materials developed for this project should allow the testing of hypotheses regarding the effect of such instruction on decision making.

g. Why the nature of the interview information affects differentially the certainty of decisions made with different types of documents. If the certainty measured with the "no interview information, multiple documents" had been low in the same manner as the "audio information, multiple documents," a rather simple explanation is available. However, reduction of certainty with audio information and the lack of reduction of certainty with no information is puzzling and needs further investigation.

h. How data processing equipment could be used for reliably transferring data from multiple documents to single documents. For this study, a strategy was developed whereby these data were transferred, but research needs to be conducted that will allow data processing equipment to be used for a variety of strategies.

Summary

This experiment was conducted in a simulated situation which facilitated the study of the teacher selection decision process by allowing information-format variables to be manipulated. It was concluded that the format of information provided to the subjects of the experiment (elementary school principals) did have an effect on the decisions made and that the optimum format consisted of instructions regarding the processing of information, a single summary document, no masking of information, and audiovisual interviews.

The implication of the study for the practice of selecting teachers is straightforward: Improvements could be made in the selection of teachers by using the format found to be optimum in this study. The improvements expected would be decreased time spent in making decisions, and increased discrimination, certainty, and consistency regarding the decisions made.

The materials used to simulate the decision-making process for selecting teachers provide a setting whereby descriptive and prescriptive theories of decision making may be tested. The results of the project make it possible to control a very important variable, the format of information, in future studies of the decision-making process.

It is recommended that additional studies be conducted to determine the effect of other variables on the teacher selection decision process. In addition, it is recommended that school administrators, and state and national governmental agencies engage in developmental activities that would implement the utilization of the optimum information format found in this study.

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APPENDIX A
The Teacher Selection Process[1]

If the classification system specified by Cronbach and Gleser (1965:15-17) is used to describe the decision process for selecting teachers, the following is indicated:

1. The person selecting teachers is involved in making an institutional decision rather than an individual decision. An institutional decision is one where a common set of values is applied to a large number of comparable decisions. There is an attempt to make decisions in such a manner that the institution benefits as much as possible. The applicant, however, must make an individual decision to join the organization, and this is made on the basis of individual values.

2. Each teacher applicant is assigned to a single treatment. A teacher cannot be assigned to a "hire" treatment and a "not hire" treatment at the same time; neither can a teacher be assigned to a fourth-grade self-contained classroom and also be assigned to teach art at a junior high school. At times the assignment is adapted to a teacher by modifying the specifics of the assignment to the peculiar abilities of the teacher. For example, a teacher may be hired for a fourth-grade assignment; but rooms, materials, or students may be changed because of the abilities of the teacher.

3. A quota is rather precisely followed. A school district has a number of vacancies to fill and only that number of teachers is hired. At times a district may hire a few extra elementary teachers with the anticipation that late resignations will occur, but seldom is this the case.

4. In all decisions, one of the acceptable treatments is "reject." This assumes that the selection ratio, i.e., the ratio of the number selected to the number who applied, is less than 1.0. If a district is in such an unfavorable geographical location that very few applications are received, the selection ratio might indeed be 1.0. In this case, no rejections would occur. On the other hand, it is inconceivable that any district would have a policy where "reject" is not a possibility. Other personnel decisions are made under conditions where "reject" is not a possibility (for example, admission of normal students to public schools).

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[1] This description of the Teacher-Selection Process appeared as part of a paper read by Dale L. Bolton at the 1967 American Educational Research Association meeting in New York City, entitled "Feedback in a Selection of Teacher Simulation."

5. Generally, the information gathered is in a multivariate form. Seldom is grade point average, or rating on personality in an interview, or recommendations regarding reliability considered separately. The total information gathered represents a variety of dimensions; it may be factor analyzed to reduce its complexity, but it still represents multiple variables.

6. The decision is commonly made at any one of various points in a sequence of information gathering, i.e., a type of sequential testing or successive hurdles is used. If cutting points are used with any of the information categories, it is not even necessary that the information be processed in a prescribed sequence. However, all information may be collected and then a single final decision made.

If it is assumed that all information about the teacher applicants is collected and then a single final selection decision is made[2], the data might take the form of multivariate information collected to predict various behaviors which have varying utility in relation to some institutional goal.

The tasks of the person who selects teachers include: (a) collecting information in such a manner that it is reliable, (b) using this information for predicting the consequent behaviors of the teacher, and (c) relating all of these behaviors to the operation of the organization so that some measure of the total utility of the individual to the organization may be made.

These tasks are necessary to determine the relative merit of each applicant for a specific assignment. In addition, of course, the decision maker must determine how many—if any—of the applicants should be hired at a particular time. This decision depends on the quota to be filled at the time, the quality of the applicants being considered, the probability that additional persons will apply, and the probable quality of such additional applicants. The number of additional applicants and their quality are related to the time of the year.

We may ignore temporarily the problem of deciding whether or not to hire and concentrate on rank ordering the available applicants on the basis of some over-all contribution to the major goals of the organization.

Let us assume that we can collect information regarding a group of teachers who are already members of a school system and that we are able to collect information regarding applicants for this school system. It could be arranged in tabular form as in Table A-1.[3]

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[2] This is the more general case (in the sense of encompassing the sequential testing case), and any investigatory decision is a special case with the availability of an additional treatment: collect additional information of a specific nature.

[3] See Horst (1962:253) for an explanation of relationships between predictor and criterion attributes that use a four-cell model.

The *Information Categories* (Y) may represent biographical entries on an application blank or credential form, test scores, grades, ratings by people who have knowledge of specific or over-all behavior of the individual, or interview ratings. The *Consequent Behaviors* (C) are the behaviors exhibited by teachers in job-related activities. Examples of such behavior might include warmth and friendliness or verbal facility exhibited. These behaviors may be specified by a given district and may be reliably observed by trained observers. They may take the form of ratings on factors such as those identified by Ryans in his Teacher Characteristics Study (1960:388-93). The *Total Utility* (U) is a measure of the value of the individual to the operation of the system. This measure may be in the form of a scaled value, a rank ordering, or a clustering of people into groupings or categories.

Table A-1

Relation of Information, Consequent Behavior and Total Utility in the Selection of Teachers

	Person	Information Categories (Y)	Consequent Behaviors (C)	Total Utility
		1 2 . . . . m	1 2 . . . . p	U
Members of the School System	1 2 . . . N	I	II	III
Applicants	N + 1 N + 2 . . .	IV	V	VI

It should be emphasized at this point that it is assumed that the consequent behaviors and the utility are *situationally determined*; no combination of *Y*'s will yield *C*'s of a particular nature regardless of situational factors; the value or utility of a given set of *C*'s is determined in a situational context, rather than being uniform across situations. For example, a teacher may exhibit much more verbal facility with a group of senior honors students then with an average group of sophomores. Likewise, a rural district may value verbal facility differently from a suburban district.

The task, then, as formulated, is to decide which applicants are more likely to make the most valuable over-all contribution to the major goals of the organization. This decision is made by predicting consequent behaviors (C) and by attaching values to these behaviors. The prediction of consequent behaviors is made on the basis of information collected (Y), and the attachment of values is based on institutional goals.

Some of the elements which must be considered in teaching a person to make such decisions (i.e., which of several teachers to select) include the following: (a) knowledge of relationships between various Y and C categories in the present members of the system (or in the treatment category for which selection is to be made); (b) knowledge of the relationships between various C categories and U in the present members of the system; (c) practice in using the relational knowledge on applicant groups to predict C and to determine U; (d) feedback regarding the effectiveness of the decisions made.

APPENDIX B

Presentation of Information Regarding the Situation via Slides and Recorded Narration

Section One. Location and Physical Setting of the Community

This section presented information regarding location and geographic features of the hypothetical community of Norwest in the State of Columbia. Two slides were shown of maps of the hypothetical state and county. A sequence of six slides illustrated via maps the various district of Norwest (e.g., business district, new and old industrial districts, and new and old residential districts) and the narration indicated how each district had developed.

Section Two. Nature of the Community

This section developed concepts of the community regarding its history, growth, leadership characteristics, religious and recreational activities, and health and safety facilities. There were 32 slides in this section, and approximately half of them illustrated the community's industrial and economic activities. The remainder of the slides illustrated the business district, new shopping centers, the newly-developed cultural center, police and fire departments, churches, recreational facilities, and a hospital. The narration explained the services and civic activities connected with the slides and discussed the general growth of the social and economic aspects of the community.

Section Three. The School District

This section presented a brief history of the present consolidated school district, its growth characteristics, and future needs. Also included in the section was information regarding the characteristics of the school board, the organizational structure of the school system, and a general description of the school programs at the secondary and elementary levels. Ten slides were used to illustrate the administrative offices, the organizational structure and various schools in the district.

Section Four. Norwood Elementary School

The attendance area was described with five accompanying slides of the homes in the area. While the subjects were viewing twelve slides of interior and exterior scenes of the school, the narration presented detailed information regarding the teaching staff, the principal, and the instructional program of the school.

Section Five. The Vacancy

Seven slides presented views of the classroom to be used by the teacher to be selected. The narration specifically focused on a fourth-grade vacancy, e.g., pupil-grouping characteristics, supportive personnel, the fourth-grade instructional program, and the other fourth-grade teachers with whom the selected teacher would be working.

APPENDIX C
Nature of Programed Text

A programed text, utilizing the branching or scrambled-book technique, was developed to present essentially the same content regarding the situation as the audio-taped commentary. A frame of information with a question and alternative answers was presented on a page in the book. Subjects in the experiment were directed to different pages depending upon their choice of an answer. In case of an incorrect response, the subject was either directed to return to the frame to select another answer or given supplemental information in order to choose the correct answer. The correct response was reinforced as being correct and then followed by the next frame of information.

The four sections of the programmed text and their content were:

Section One - Location and Physical Setting (3 frames).

This section included: (a) the location of the city within the state; and (b) areas of the city, especially the areas of residential and industrial growth.

Section Two - Nature of the Community (8 frames).

This section included: (a) present industrial and community activities; (b) leadership structure in the community; and (c) potential of the community.

Section Three - Norwest Community School District (6 frames).

This section included: (a) organizational structure of the district; and (b) district growth and expectations.

Section Four - Norwood Elementary School (15 frames).

This section included: (a) characteristics of the teaching staff and principal; (b) instructional program; (c) conversation of principal and assistant superintendent of personnel regarding supply of applicants, expected salary range; and (d) excerpts from the job description.

APPENDIX D
Development of the Fictitious Applicants

The problem confronted in designing the simulated interview situations was to create "personalities" for the 16 fictitious applicants for the teaching position. In essence, eleven distinct types were required, since five of the applicants appeared in both the morning and afternoon sets of applicants. It was necessary for these five applicants to have equivalent characteristics in both the morning and afternoon session in order to obtain an accurate reliability measure. For all eleven applicants, it was desired to create "personalities" that were clearly distinct from one another, and yet were within the range of homogeneity established as a control factor in the experiment. If the applicants were too diverse, few differences would be likely to appear among the various treatments.

After reviewing the literature relevant to teacher personality and behavior, it was decided to utilize the work of David Ryans in the Teacher Characteristic Study (Ryans, 1960) because this was considered to be the most thorough and precise study in the area of teacher behavior variables. Inasmuch as the setting for the experimental task was an elementary school, use of the five factors developed in the Teacher Characteristics Study for the elementary teacher sample was considered appropriate. These five factors were: originality, systematic, empathy, sociability, and buoyancy.

To provide a framework on which to develop the ficititious applicants, these five factors were systematically manipulated so that each applicant would be high on one factor, two other factors would be present but not predominant, and the remaining two factors would be neutral or not present. The high, medium, and subdued factors for the eleven applicants were as follows, with the asterisks denoting the applicants who appeared in both the morning and afternoon sessions.

Teacher Applicants' Characteristics

	High Factor	Medium Factors	Subdued Factors
1.	originality	buoyancy, sociability	empathy, systematic
*2.	originality	empathy, systematic	buoyancy, sociability
*3.	systematic	sociability, empathy	originality, buoyancy
4.	systematic,	originality, buoyancy	sociability, empathy
*5.	empathy	sociability, buoyancy	originality, systematic
6.	empathy	systematic, originality	sociability, buoyancy
7.	sociability	empathy, originality	buoyancy, systematic
*8.	sociability	buoyancy, systematic	empathy, originality
*9.	buoyancy	sociability, originality	empathy, systematic
10.	buoyancy	empathy, systematic	sociability, originality
11.	buoyancy	originality, systematic	empathy, sociability

Using this scheme as a basis, and being guided by the bipolar adjective scales describing these factors, a composite "personality" was developed for each of the eleven applicants. Scripts were then written with questions and answers designed to permit manifestation of the characteristics of each applicant in a clear and unambiguous manner.

APPENDIX E
Examples of Single and Multiple Documents

The first two pages of this appendix represent the single document used in the experiment. The first page was actually the upper half of a single folded page, while the second page was the lower half of the 8½" x 22" single page. The remainder of the appendix illustrates the application form used (three pages); placement credentials (four pages—general information, student teaching record, undergraduate course record, letter of recommendation); and confidential teacher reference form used to acquire information by telephone from references (one page).

SUMMARY OF APPLICANT'S QUALIFICATIONS

GENERAL INFORMATION

Name ____ Age ____ Ht. ____ Weight ____

Position Desired 1. ____ 2. ____ 3. ____

High School ____

Colleges: BA at ____ yr. ____

Graduate work at ____ degree, if any ____ yr. ____

Certificate ____ expiration date ____

Secondary School Activities prepared to direct ____

____

Elementary School Activities prepared to direct: Piano ____ Singing ____

Art ____ P.E. ____ Other ____

Languages ____

Years of experience ____ Level(s) ____

Best Qualified to teach ____

BACKGROUND DATA

	Beneficial			Possible Problem	
	Considerable	Somewhat	None	Somewhat	Considerable
Teaching experience	____	____	____		
Youth activities	____	____	____		
Other work experience	____	____	____		
Professional membership and activities	____	____	____		
Hobbies related to teaching	____	____	____		
Honors and activities	____	____	____		
Travel	____	____	____		
Special knowledge, skills, abilities	____	____	____		
____	____	____	____		
____	____	____	____		
Marital status			____	____	____
Children			____	____	____
Spouse's occupation			____	____	____
Health			____	____	____
Physical disabilities			____	____	____
Draft status			____	____	____
Criminal record			____	____	____
Habits or peculiarities			____	____	____
Work absenteeism			____	____	____
____			____	____	____
____			____	____	____

SUMMARY OF COLLEGE COURSEWORK

Scholastic Average	4.00-3.30	3.29-2.90	2.89-2.40	2.39-2.15	2.14-2.00
Major					
Minor					
Minor					
Professional Education.					
Total Courses Taken					

Breadth and Depth of Coursework	Exceptional	Above Average	Standard	Very Minimum	Deficient
Major					
Minor					
Minor					
Professional Education.					
General Education.					

EVALUATIVE DATA

The grid is a summary of the evaluations of the applicant's characteristics.

Code: S-student teacher report, C-cooperating teacher recommendation, P-college professor recommendations, X-principal recommendation, Y-superintendent recommendation

CHARACTERISTIC	HIGH 5	4	3	2	LOW 1
Personal appearance.					
Character					
Personality.					
Responsibility					
Emotional Stability					
Mature Judgment					
Adaptability					
Cheerfulness, sense of humor					
Breadth of General Knowledge					
Ability to present idea (written & oral)					
Ability to do academic work					
Attitude toward college work					
Knowledge of professional matters.					
Knowledge of teaching methods					
Knowledge of subject matter & background					
Professional interest and/or growth					
Interest in children (students).					
Teaching ability (overall)					
Classroom control					
Organization and management					
Presentation					
Individualization					
Creativity and resourcefulness					
Cooperation					
Ability to work with others					
. . . .					
. . . .					
. . . .					
Recommended					

An application for a teaching position in the

Norwest Community Schools

P. O. 134
Norwest, Columbia

1. Name (Maiden) Date
2. Present Address Zip Phone
3. Permanent Address Zip Phone

Personal Data

4. Date of Birth 5. Height 6. Weight 7. Citizen of
8. Single Married Widowed Separated Divorced
9. If married, name of spouse 10. No. of Children Ages
11. Spouse's occupation 12. Spouse's employer
13. Condition of Health
14. Have you any physical disabilities or limitations?
15. Have you ever been arrested for other than traffic offenses?

(If your answer to either of the last two questions was "Yes", please explain fully below.)

Professional Interests

16. Position desired: 1) 2) 3)
17. Why do you want to teach in this district?
18. Type of certificate held State Expiration Date

Education

NAME OF SCHOOL	LOCATION	DATES INCLUSIVE	DEGREE & DATE REC'D	MAJOR	MINOR
High School					
College or					
University					
Graduate or					
Special Work					

Teaching Experience

List most recent experience first.
Inexperienced teachers give student teaching

DATES FROM TO	LOCATION	NAME OF SCHOOL	NO. OF YEARS	SUBJECT (GRADES) TAUGHT OR POSITIONS HELD	REASON FOR LEAVING

Other Work Experience

Include Military

DATES FROM TO	NAME OF EMPLOYER	LOCATION	TYPE OF WORK	REASON FOR LEAVING

References

Give at least three references who have first hand knowledge of your scholarship and teaching ability, personality, and character. Experienced teachers include superintendents and principals under whom you have taught, starting with your last position.

NAME	ADDRESS	OFFICIAL POSITION

23. Credentials are on file at ____________________

Address ____________________

Professional Information

24. **Special Qualifications:**

What student activities have you directed or coached? 1) ______________________

2) ______________ 3) ______________ 4) ______________

What student activities are you prepared and willing to direct or coach? 1) ______________________

2) ______________ 3) ______________ 4) ______________

25. **Special Qualifications – Elementary** (to be completed by elementary candidates only)

Can you play the piano? ______ Can you direct class singing? ______ Can you teach your own music class? ______

Additional music classes? ______ Can you teach your own art class? ______ Additional art classes? ______

Can you teach your own physical educational class? ______ Additional Physical Education classes? ______

Other ______________ Foreign languages (Specify) ______________

26. List names of professional organizations to which you belong and/or expect to join. ______________________

27. List hobbies or special abilities relating to teaching profession. ______________________

28. Honors Received (High School, College, otherwise). ______________________

29. College Activities (include participation in organizations). ______________________

30. Travel (when, where, purpose) ______________________

31. I hereby certify that the information herein is a true and complete statement of my personal and professional record to date.

____
Signature of Applicant

CONFIDENTIAL Placement Credentials
from
Placement Office
UNIVERSITY OF COLUMBIA
Westland, Columbia

GENERAL INFORMATION

Name ______________________________ Date ____________

Position desired: Subject(s) ______________________________ Grades ____________

Present address ______________________________ Zip No. ________ Phone ________

Home Address ______________________________ Zip No. ________ Phone ________

Birth date ________ Height ________ Weight ________ Health ____________

Marital Status ________ Sex ________ No. of Children ________ Ages ____________

EDUCATION

High School ______________________ Location ______________________

College(s) Attended	No. of quarters	Major	Minors	Degree(s) Expected or received	Date

PRACTICE TEACHING

Grade	Subjects	Place	Qtr. Yr.

FIRST YEAR COMPETENCE

☐ Elementary

☐ Secondary

Subject ____________

TEACHING EXPERIENCE

Date	District Name	Subject or Grade

OTHER WORK EXPERIENCE

Job	Length of Time

Membership: Professional Organizations and Community Activities ______________________________

____

Travel ______________________________

Miscellaneous: (include experience related to teaching or children, military experience, etc.) ______________________________

____

Name of Student ______________________ Date of S/T ______________________

S/T Assignment ______________________ School ______________________

District ______________________ Name of Cooperating Teacher ______________________

Rate by checking (√) the appropriate column:
(Where satisfactory is achieved by the average student)

Factor Rated:	RATING ASSIGNED Outstanding	Strong	Satisfactory	Needs Help	Unsatisfactory	Not Observed	Comments on particular strength and areas needing improvement:
I. PROFESSIONAL QUALITIES							
1. Enthusiasm for teaching							
2. Standard of ethical behavior							
3. Accepts responsibility							
4. Adjusts to new situations							
5. Openness to ideas and new fields of knowledge.							
II. PERSONAL QUALITIES							
1. Dress and appearance							
2. Poise and manner							
3. Health and vitality							
4. Emotional maturity and adjustment							
5. Gets along well with others							
6. Respected by pupils							
7. Ability in realistic self-evaluation							
8. Speech and voice							
III. KNOWLEDGE AND PREPARATION							
1. Subject-matter and background							
2. General education background							
3. Exhibits creativity and initiative							
4. Oral communication skills							
5. Written communication skills							
IV. TEACHING PERFORMANCE							
1. Creates varied, stimulating learning situations							
2. Shows genuine respect for all students							
3. Gives clear, concise directions							
4. Displays fairness and sound judgment							
5. Maintains reasonable standards of evaluation							
6. Provides for individual differences							
7. Organization for and management of small-group work							
8. Differentiates assignments							
9. Utilizes problem solving techniques							
V. CLASSROOM MANAGEMENT							
1. Efficiency in use of time, materials, plant							
2. Records and reports							
3. Classroom control							
4. Promotes and secures cooperative behavior							
5. Daily lesson planning							
6. Long range unit plan							
VI. COMPOSITE EVALUATION							

VII. SUMMARY STATEMENT (May include attendance, restrictions, handling of confidential materials, extra-curricular participation, etc.)

VIII. RECOMMENDED FOR THE FOLLOWING LEVEL:

Signed ______________________ Title ______________________

Name ______________________________ Date ______________________________

SUMMARY OF UNDERGRADUATE RECORD

Group all undergraduate courses under headings of Major, Minor, Gen. Ed., Prof. Ed. and Electives.

Use course numbers and catalog titles, as well as credits and grades.

Course No.		Credit	Grade	Course No.		Credit	Grade

Candidate's Name ______________________________ Date ____________________

Nature of association with person reporting ______________________________

Signature of person reporting ______________________________

Position or Title ______________________________

INSTITUTION ______________________________

NORWEST COMMUNITY SCHOOLS

P. O. 134
Norwest, Columbia

Confidential Teacher Reference

____
____
____

Date ______________________________

______________________________ has applied for a position in this District as a teacher of ______________________________. Will you kindly give your frank evaluation of the professional and personal characteristics of the applicant? Your confidence will be respected and your cooperation appreciated.

Sincerely yours,

Lane R. Holmes, Superintendent

Rating Standards:

Superior	Equal to top ten per cent of your teachers
Good	Above average but not excellent
Average	Satisfactory but not at all outstanding
Below Average	Below average but fair
Unacceptable	Definitely unsatisfactory

	SUPERIOR	GOOD	AVERAGE	BELOW AVERAGE	UNACCEPT-ABLE
1. TEACHING ABILITY – To what extent has this person the makings of a master teacher in subject matter and methods?					
2. STUDENT CONTROL – To what extent is this person able to maintain constructive discipline through purposeful activity rather than repression or disorder?					
3. PERSONAL APPEARANCE – To what extent does this person appear healthy and have good habits in grooming and dress?					
4. CHARACTER – To what extent does this person exhibit wholesomeness in character and personal values?					
5. EMOTIONAL STABILITY – To what extent does this person maintain poise and good nature in spite of the irritations of the job and personal troubles?					
6. INTEREST IN STUDENTS – To what extent is this person interested in students and their activities in and out of the classroom?					
7. PROFESSIONAL INTERESTS AND GROWTH – To what extent is this person interested in teaching as a career, and have the willingness and ability to improve?					
8. COOPERATION – To what extent does this person work harmoniously and beyond the line of duty with the administration, fellow teachers, school and community?					

QUESTIONS:

How long have you known the applicant? ____________ In what capacity? ____________
In your opinion, this person is best qualified to teach ______________________________
Has the applicant any habits or peculiarities which you consider objectionable, or which might cause the school system embarrassment? ____________ If yes, explain ______________________________
About how many days absence has this person averaged per year in your employment? ____________
Would you re-employ? ________ Eagerly? ________ Look first? ________ Only in emergency? ________

Comments: ______________________________
____
____

APPENDIX F

Examples of Each Part of the Subject Response Form

SUBJECT RESPONSE FORM

For the Experiment

VARIABLES AFFECTING DECISION MAKING IN THE SELECTION OF TEACHERS

Conducted by

Dr. Dale L. Bolton
Associate Professor of
Educational Administration
University of Washington

Subject Number _______________ (1-3)

Date ________________________ (4-5)

Group _______________________ (6-7)

Session _____________________ (8)

Time Started ________________

Time Finished _______________

________________ (9-11)

CLASSROOM OBSERVATION RECORD
NORWEST COMMUNITY SCHOOLS
NORWEST, COLUMBIA

Everyone appraises – with or without a formal program. All the more reason why a systematic method is needed.

The observation record is simply an attempt to think clearly about each teacher's performance and potential against the background of his total work situation. Its purpose is to improve student instruction through encouraging in-service growth and systematizing supervisory counseling.

For a given observable characteristic, bi-polar terms are used to describe opposite qualities. The line representing the continuum from one extreme to the other is divided into seven segments. The mid-segment on the scale denotes "neutral" qualities pertaining to the characteristic.

Three different ratings on the continuum calm-excitable are given for examples:

Calm X : ___ : ___ | ___ | ___ : ___ : ___ Excitable

A check in this category indicates the person rated is extremely calm. He exhibits freedom from useless agitation in all situations.

Calm ___ : ___ : ___ | X | ___ : ___ : ___ Excitable

A check in this category indicates the person rated has no pre-disposition toward either calmness or excitability. Whatever the situation or concern, he is as likely to exhibit composure and act logically as he is to show useless agitation and abandonment of logical methods.

Calm ___ : ___ : ___ | ___ | X : ___ : ___ Excitable

A check in this category indicates the person rated exhibits a tendency toward excitability. When exchanging ideas, planning, or working with others, he often displays a degree of agitation which somewhat impairs his composure and logical functioning. However, he seldom, if ever, shows uncontrolled agitation.

For each teacher that you observe, place a check (X) in the appropriate spaces on the observation instrument.

Teacher ____ (12-13)

A. PLANNING & ORGANIZING CLASSWORK

1. Purposeful ___ : ___ : ___ | ___ | ___ : ___ : ___ Aimless (14)
2. Systematic ___ : ___ : ___ | ___ | ___ : ___ : ___ Disorganized (15)
3. Cooperative ___ : ___ : ___ | ___ | ___ : ___ : ___ Antagonistic (16)
4. Original ___ : ___ : ___ | ___ | ___ : ___ : ___ Unimaginative (17)

Comments ____

B. CLASSROOM MANAGEMENT

1. Punctual ___ : ___ : ___ | ___ | ___ : ___ : ___ Tardy (18)
2. Controlled ___ : ___ : ___ | ___ | ___ : ___ : ___ Disorderly (19)
3. Consistent ___ : ___ : ___ | ___ | ___ : ___ : ___ Inconsistent (20)
4. Flexible ___ : ___ : ___ | ___ | ___ : ___ : ___ Fixed (21)
5. Fair ___ : ___ : ___ | ___ | ___ : ___ : ___ Partial (22)
6. Responsive ___ : ___ : ___ | ___ | ___ : ___ : ___ Indifferent (23)

Comments ____

C. CREATING A MOTIVATIONAL ENVIRONMENT

1. Steady ___ : ___ : ___ | ___ | ___ : ___ : ___ Spasmodic (24)
2. Flexible ___ : ___ : ___ | ___ | ___ : ___ : ___ Rigid (25)
3. Broad-minded ___ : ___ : ___ | ___ | ___ : ___ : ___ Narrow-minded (26)
4. Sensitive ___ : ___ : ___ | ___ | ___ : ___ : ___ Unfeeling (27)
5. Kindly ___ : ___ : ___ | ___ | ___ : ___ : ___ Critical (28)
6. Sense of humor ___ : ___ : ___ | ___ | ___ : ___ : ___ Humorless (29)
7. Stimulating ___ : ___ : ___ | ___ | ___ : ___ : ___ Dull (30)

Comments ____

D. INSTRUCTION

1. Alert ___ : ___ : ___ | ___ | ___ : ___ : ___ Apathetic (31)
2. Resourceful ___ : ___ : ___ | ___ | ___ : ___ : ___ Inflexible (32)
3. Poised ___ : ___ : ___ | ___ | ___ : ___ : ___ Agitable (33)
4. Helpful ___ : ___ : ___ | ___ | ___ : ___ : ___ Hindering (34)
5. Inspirational ___ : ___ : ___ | ___ | ___ : ___ : ___ Uninspiring (35)
6. Precise Comm. ___ : ___ : ___ | ___ | ___ : ___ : ___ Fuzzy (36)
7. Pleasant ___ : ___ : ___ | ___ | ___ : ___ : ___ Harsh (37)

Comments ____

E. EVALUATION

1. Continuous ___ : ___ : ___ | ___ | ___ : ___ : ___ Erratic (38)
2. Rational ___ : ___ : ___ | ___ | ___ : ___ : ___ Irrational (39)
3. Systematic ___ : ___ : ___ | ___ | ___ : ___ : ___ Disorganized (40)
4. Just ___ : ___ : ___ | ___ | ___ : ___ : ___ Inequitable (41)

Comments ____

F. GUIDANCE AND COUNSELING

1. Resourceful ___ : ___ : ___ | ___ | ___ : ___ : ___ Trite (42)
2. Patient ___ : ___ : ___ | ___ | ___ : ___ : ___ Impatient (43)
3. Approachable ___ : ___ : ___ | ___ | ___ : ___ : ___ Formal (44)
4. Inspiring ___ : ___ : ___ | ___ | ___ : ___ : ___ Uninspiring (45)
5. Communicative ___ : ___ : ___ | ___ | ___ : ___ : ___ Uncommunicative (46)

Comments ______________________________

G. OUT-OF-THE-CLASSROOM DUTIES AND PROFESSIONAL ACTIVITIES

1. Active ___ : ___ : ___ | ___ | ___ : ___ : ___ Evading (47)
2. Responsible ___ : ___ : ___ | ___ | ___ : ___ : ___ Irresponsible (48)
3. Skillful ___ : ___ : ___ | ___ | ___ : ___ : ___ Unskillful (49)
4. Accurate ___ : ___ : ___ | ___ | ___ : ___ : ___ Inexact (50)
5. Punctual ___ : ___ : ___ | ___ | ___ : ___ : ___ Tardy (51)
6. Constructive ___ : ___ : ___ | ___ | ___ : ___ : ___ Antagonistic (52)
7. Progressive ___ : ___ : ___ | ___ | ___ : ___ : ___ Stagnant (53)

Comments ______________________________

H. RELATIONS WITH OTHER PEOPLE – (STAFF AND PARENTS)

1. Approachable ___ : ___ : ___ | ___ | ___ : ___ : ___ Aloof (54)
2. Cooperative ___ : ___ : ___ | ___ | ___ : ___ : ___ Uncooperative (55)
3. Discreet ___ : ___ : ___ | ___ | ___ : ___ : ___ Imprudent (56)
4. Responsible ___ : ___ : ___ | ___ | ___ : ___ : ___ Irresponsible (57)
5. Open-minded ___ : ___ : ___ | ___ | ___ : ___ : ___ Narrow-minded (58)
6. Effective ___ : ___ : ___ | ___ | ___ : ___ : ___ Inneffective (59)

Comments ______________________________

I. SCHOOL-COMMUNITY RELATIONS

1. Active ___ : ___ : ___ | ___ | ___ : ___ : ___ Inactive (60)
2. Initiates ___ : ___ : ___ | ___ | ___ : ___ : ___ Follows (61)
3. Effective ___ : ___ : ___ | ___ | ___ : ___ : ___ Ineffective (62)

Comments ______________________________

Degree of Certainty: Teacher Evaluation Instrument

You have predicted how each applicant would be rated on the Teacher Evaluation Instrument at the end of his first year of teaching. Suppose that you were given what is to you a "fair amount" of money which you could either keep or bet any portion of on the "correctness" of your predictions for the applicants. How much would you be willing to bet that your predictions for the applicants are generally "correct?"

0% ______________ 1 (63)
10% ______________ 2
25% ______________ 3
50% ______________ 4
75% ______________ 5
90% ______________ 6
100% ______________ 7

Ranking of the Applicants

Rank the eight applicants in the order of their desirability for the fourth grade teaching position in Norwood Elementary School, Norwest Community School District.

Rank　　Last Name of Applicant

1. ________________________ (64)
2. ________________________ (65)
3. ________________________ (66)
4. ________________________ (67)
5. ________________________ (68)
6. ________________________ (69)
7. ________________________ (70)
8. ________________________ (71)

Degree of Certainty: Ranking

Suppose you were given what is to you a "fair amount" of money which you could either keep or bet any portion of on the "correctness" of your decisions regarding teacher selection. How much would you be willing to bet that your rank ordering of the eight applicants is "correct," except perhaps for one or two "errors" of slight misplacement?

0% ________ 1 (72)
10% ________ 2
25% ________ 3
50% ________ 4
75% ________ 5
90% ________ 6
100% ________ 7

Fineness of Discrimination

On some characteristics certain people are more alike than dissimilar. On other characteristics, these same people may be quite dissimilar. When they are more alike than unlike, we often classify or group them into homogeneous groups.

Below five characteristics are listed. For each characteristic use the numbers of the applicants indicated below to show how many groups you consider to exist in the eight teacher applicants you have just examined and what individuals "belong" to each group.

For example, if for a given characteristic you believe that applicant 4 is more unlike than like the others; that applicants 1,5,6,8 are more similar than dissimilar; and that 2,3,7 likewise for a homogeneous group, then you should show this by writing (4), (1,5,6,8), (2,3,7).

Characteristic — Groups

1. Adaptable (imaginative and resourceful) ________ (73)
2. Empathetic (warm and understanding) ________ (74)
3. Systematic (responsible and definite) ________ (75)
4. Buoyant (stimulating and expressive) ________ (76)
5. Probable success in teaching ________ (77)

1. Connie Andrews
2. Sharon Barnes
3. Tami Beck
4. Melody Cochran
5. Janet Lee
6. Paula Lewis
7. Sally Mickelson
8. Marlene West

APPENDIX G

Reactions of the Subjects to the Experiment

At the end of each day's sessions, meetings were held with the subjects to obtain their reactions to the experimental task and to gain insights regarding the simulated situation. The purpose of acquiring this information was to assist in determining the feasibility of using the developed materials for training of educational administrators and for conducting additional research regarding decision making in the selection of teachers. (Another function of these sessions was to ask the subjects' cooperation in not revealing information to other administrators who would be participating in the experiment.)

The more frequent reactions and concerns expressed by the subjects were:

1. The task was demanding because of the perceived similarity of teacher applicants.

2. The time allocated to the morning session was a pressing aspect in completing the experimental task.

3. Making estimates of applicant's performance and completing other responses was difficult because subjects were instructed to review all eight applicants before responding to the various measurement instruments.

4. There was some difficulty in assuming the roles of an administrator in the hypothetical situation throughout the entire experiment, especially in the afternoon session.

5. There was considerable realism of the simulated materials used in the orientation and experimental task.

6. Masking of information caused some frustrations in that some subjects had difficulty making decisions without complete information.

7. The materials used in the experiment would be beneficial in the training of educational administrators or in the continuing education of principals.